AMERICAN GAS ASSOCIATION MONTHLY

Vol. VII No. 11

NOVEMBER, 1925

Ready for an Emergency

FROM the best information obtainable, it seems reasonably certain that most of our members are fully conscious of our duty to the public whom we serve and to ourselves of assuring an adequate supply of fuel to guarantee continuous service even in the event of largely increased demand; and that few if any of us will be found unprepared in any development or contingency that may arise in the coal situation nationally.

ALEXANDER FORWARD,
Secretary-Manager.

A Million Dollar Load?

HUNDREDS of millions of dollars are added every year by our gas companies to the value of food stuffs produced by the American farmer and stock raiser, and consumed at the dinner table in the form of canned goods, ham, bacon, peanuts, coffee, spaghetti, potato chips, dried fruits, sugar, pasteurized milk and an innumerable list.

All this is exclusive of the work done in the nation's kitchens over the gas range. It is a load which every gas company should have without competition from any other fuel. Few companies, however, have taken full advantage of their opportunities in this important field.

First aid to the industrial gas man, ambitious to make a record for his company, is now available through the American Gas Association in the new volume of the Industrial Series, entitled "FOOD PRODUCTS." This volume, in the hands of prospective customers, is one of the most effective means of inducing them to adopt the inevitable medium of gas fuel.

Here is material and essential data for the hard-headed business man and engineer who demands facts on installation and operation of his fuel-burning equipment. "FOOD PRODUCTS" is a complete reference work on the application of gas to all operations in the food products industry. The price is $1.50 to members of the A. G. A.

N. B. Why not write for a complete list of titles of the Industrial Gas Series, now off the press?

AMERICAN GAS ASSOCIATION MONTHLY

342 MADISON AVENUE, NEW YORK, N. Y.

HENRY OBERMEYER
Editor

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For statements and opinions contained in papers and discussions appearing herein, the Association does not hold itself responsible.

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Our Own Who's Who

VI

HARRY C. ABELL

BORN, Winnipeg, Manitoba; Graduated, St. John's College, Winnipeg; Took Degree of B.S. in Electrical Engineering at Armour Institute of Technology and later Degree of Electrical Engineer; Served through Spanish-American War as Engineer on Cruiser St. Louis; Is Vice-President, Electric Bond and Share Co.; President, National Power and Light Co.; President, American Gas Association, Elected for Second Year; was a Director of the American Gas Institute and has Served as Member of the Executive Board and Chairman of Committee on Gas Appliance Testing Laboratory.

AMERICAN GAS ASSOCIATION MONTHLY

Vol. VII NOVEMBER, 1925 No. 11

Salient Sayings of Convention Speakers

And Some Others Who Were There

B. J. MULLANEY, Chicago

ONLY about twenty per cent of customers have any conception that there is such a thing as regulation, by the state or otherwise; only that small number have any idea that they can appeal to authority other than the company itself in case of dissatisfaction or dispute. The other eighty per cent look only to the company for attention to their needs, their grievances or other incidents of service. These percentages hold good wherever such studies have been made.

The percentages are about the same when the agencies, or influences or acts which tend to affect public opinion are studied. Only about twenty per cent ever see, or hear or at best give heed to, our speeches before Rotary Clubs, our statements in the newspapers, our explanations of the economic importance and social significance of public utilities, or other methods of pinning medals on ourselves. The other eighty per cent judge us entirely on their personal experiences with us and with our service, and, as will appear, their judgment is affected far more by personal contact with employes than by any other factor.

FRED H. SCHEEL, Chicago

OF the ten million meters connected to the mains of the gas industry today, only 1,015 are involved in receivership. Nothing could demonstrate better the inherent soundness of this century-old public utilty. The two gas companies in question are capitalized at about $255,000, as compared with $4,000,000,000 invested in the manufactured gas industry as a whole.

In the past decade the output of the manufactured gas industry has doubled and the demand for industrial gas has multiplied tenfold. A recent study of twelve leading American gas companies shows that in the past five years their gross income has increased 14.7 per cent and net income available for dividends 235 per cent. Yet capital invested in this group has increased only 20 per cent in this period.

H. Leigh Whitelaw, New York

WITHIN the next fifteen years nearly 2,000,000 homes in the United States will be enjoying the modern convenience of gas heating, thereby releasing about 30,000,000 tons of coal for more useful purposes. Approximately 100 different gas companies serving territories with a population of 25,000,000 have either instituted special low rates for house heating service or are actively pushing this class of business.

Gas house heating installations are going in today at the rate of 15,000 a year for both natural and manufactured gas. At the present time pronounced activity is apparent in the New England states, certain Middle Western states, such as Illinois, Ohio, and Missouri, and on the Pacific Coast.

Henry L. Doherty, New York

THE future of the gas business depends primarily on whether the men in the industry are ready to subscribe universally to sound fundamental principles, and then it depends upon whether they are willing to go to work in a determined way to create the conditions we need, to make the gas business what it ought to be.

We must get away from our present foolish standards and must be allowed to supply any type of gas that will give satisfaction to our customers. We must adopt rational rates and must, as a duty to the public, find a way to refuse longer to supply any customer with services at less than cost. We must strive by every method possible to reduce our investment cost and our production cost to the end that we can get a delivery cost for our service below that of other fuels when proper consideration has been given to gas as a superior fuel by the buyer of it.

Our added markets must come from uses now supplied by solid or liquid fuel. This means that we must stop producing three times as much solid fuel as we do gaseous fuel in our coal gas plants and that we must get away from the use of oil for gas making as we cannot buy from the oil industry what to us is a raw material and what to our user in many instances is a finished fuel.

F. H. Knapp, Pittsburgh

THE uses for hot water are being brought to the attention of the people every day in a more forcible way; in fact, some states and cities are passing laws which necessitate an ample supply of hot water to conform. Reference is made to the washing of all glassware at soda fountains, the sterilizing of barbers' tools and doctors' instruments, public bath houses and many others. The gas-fired water heater is the best and cheapest way to secure this supply of hot water, and still there are surprisingly few gas water heaters in use today—one million. When we know that there are seven million gas meters in service, the field for gas water heaters is enormous.

It has been predicted, and the prediction is apparently coming true, that it will be but a few years until a large proportion of homes will be heated with gas for fuel instead of coal. What a wonderful clearing of atmosphere this will result in; and of equal importance, to us at least, will be the new fields for the sale of gas and gas heating appliances. With the Laboratory functioning properly, with

six million gas users needing automatic water heaters, with the new markets for gas heating appliances and gas ranges, the future is nothing if not bright.

A. B. MACBETH, Los Angeles

THE times have changed. Today it is the duty of the gas companies to see to it that their representatives in every community are interested in public questions. And by the representatives I do not mean merely one man in the community, but all employes, men and women, who are qualified to have opinions and able to express them.

The thousands of stock owners of a gas company are vitally interested in the development and expansion of the communities in which their company operates and they draw direct benefits from such progress as is made. Men who are competent to properly run a gas company should be encouraged in every way in giving their time and thoughts to the public and semi-public organizations which are directly concerned with civic and community development.

THOMAS N. MCCARTER, Newark

IT is in the field of industrial use that accelerated growth for the gas industry undoubtedly lies, and the problems with which the managers of gas utilities have to deal relate to the fuller development of gas as a fuel, and salesmanship which will sell the gas idea to industry as fully as it has been sold to the housewife.

It seems to me that the task properly divides itself into two principal efforts: First, research, in order that the industry may have exact knowledge of the economic and physical possibilities of gas as a fuel for industrial and domestic purposes, and that there may be developed not only improved apparatus and methods for the manufacture and distribution of gas, but also improved appliances for customers' use.

Second, popularization, in order to spread the knowledge of what gas will do and how it will do it, among all potential users.

ROBERT J. CANNIFF, Poughkeepsie

IF the gas industry holds its domestic cooking market it must change the present habits in the home. This isn't so difficult an undertaking when you realize that the lemon growers increased their production 100 per cent by showing the housewife new uses for lemons, such as lemon with fish and the like. The same story is true of the orange growers and the raisin growers of California. All this was accomplished through a co-operative campaign of national advertising.

While it is evident that the solution of the job ahead in selling is a national campaign of co-operative advertising, such a campaign will not attain its greatest success unless the industry is entirely sold on the idea and willing to organize locally for an immediate sales follow-up. It is useless to appropriate money for national advertising in magazines and trade papers unless we are in agreement as to policy and procedure and have a definite sales plan for our local operation.

C. E. PAIGE, Brooklyn

THE state committees on public utility information are not a substitute for anything. They do not conflict with, or impinge upon, any activity of a public relations nature now existing in any branch of the public utility industry. When companies have public relations departments and where other state-wide or nation-wide public relations programs are being prosecuted, the state committees constitute a most valuable agency to supplement and intensify such work.

We require a sympathetic public understanding for the industry to continue to expand at its present rate. Correct understanding is based on information, and information is the cornerstone of the state committee plan. Of course we must recognize that it isn't so important what a corporation says as what it does. But if it does right, isn't it entitled to the privilege of saying so?

C. R. STULL, Philadelphia

THE smooth-tongued stranger who used to appear at the door and promise fabulous returns if you invested in his scheme has been replaced by the gas company employe, either meter reader, trouble man or clerk, who offers a solid investment worth 100 cents on the dollar and with sure dividend returns. By informing the public of the methods of operation of the swindler, at the same time offering a sound investment in a basic community enterprise, a large part of this previous tremendous loss has been conserved for the people to invest or spend for the worthwhile things of life.

The story of sound investing has been told through the advertising columns of the newspapers to hundreds of thousands of gas company customers, so that today a large part of the money required in extending gas service to the growing suburban communities is coming direct from the laborer, the miner, the school teacher, the clerk, the business man, who, by purchasing one share, two shares, five shares of stock, build up the enormous total of millions required each year for new construction.

D. J. YOUNG, Tacoma

THE gas industry, as I see it, is in a rather critical stage. The advance in recent years, both technical and commercial, is extremely gratifying, but should not induce in us any false sense of security. The change in our business, such as the development of house heating and industrial business, calls for careful, intelligent study of the problems to be met. As I see it, sound and practical rates combined with aggressive and intelligent merchandising of our service are our greatest needs at present.

R. B. HARPER, Chicago

IF every gas company in the United States in petitioning for or setting up future rate schedules would include an item of, let us say, one cent per one thousand cubic feet, to cover research expense and, where necessary, have this recognized as a legitimate item of expense by any existing regulatory body,

based on the sales of manufactured gas in 1924, an annual income of $4,000,000 for research and development purposes could be realized.

The time to make a real start is now, and therefore let us hope that the close of the 1925 Convention of the American Gas Association will mark the beginning of a constructive program of financing the needs of the gas industry as regards organized technical research and development work needed to help solve the problems which the rapid expansion of the gas business has and is continually creating.

GEO. B. CORTELYOU, New York

THE gas industry was never in better shape to take advantage of its opportunities than it is today. It is animated generally by an alert, progressive spirit, by a realization of its obligations to the public it serves and a desire to fulfill those obligations in fullest measure. It is better organized and more responsible to changing needs and conditions than ever before; and in co-operative effort it has gone far beyond anything it has previously known. I believe, too, that it is enjoying a greater degree of public confidence than heretofore—enjoying it because deserving it.

GEORGE W. PARKER, St. Louis

THERE used to be an old riddle which ran something along these lines: What is the best way to keep the smoke out of the kitchen and the moths out of the attic? The old answer was a very logical one, even though not susceptible of being put into operation, i.e., to cook in the attic and store your winter furs in the kitchen.

Nowadays, of course, the trend of the times has so changed that in every up-to-date household the cooking is done on a gas stove which overcomes any trouble from smoke; and then, of course, the ladies of the family all wear their furs the entire year round, so who cares if there *are* a few moths in the attic?

HORACE C. CLARK, Chicago

ANY national efforts to conserve oil will be too late. It takes from ten to twenty years, a generation, to feel the effects of a national program, be it conservation, prohibition, or anything else, and as scientists tell us that our oil supply will be exhausted in ten years, it is useless to start an oil conservation program now, because the oil will be gone before the program is completed. Therefore, let us start a conservation program on coal, which is the most important national resource we have, and, like natural gas and oil, when gone cannot be replenished.

THEODORE V. PURCELL, Chicago

EXTENDED investigation shows that a majority of users of gas for industrial heating would largely increase their consumption under rates that would compete with the cost of oil and coal, and that many additional industries not now presumed to be prospective business could also be brought in.

If industrial customers can be induced to use gas without increasing the burden now borne by small customers, the in-

dustry will prosper, profits will increase and the small customer will ultimately benefit. If not, the small customer must continue permanently to carry all charges.

ADA BESSIE SWANN, Newark

THE ruling desire of every woman's heart is to be necessary to the happiness of those who make up her family, her husband and children. If she hasn't any husband or children, this is the prime desire of her heart just the same. This is the meaning of the intense interest by women in the Home Service Departments of gas companies, in its daily teaching of new and easier methods for doing the old time so-called drudgery of the home.

Home Service Departments in gas companies have this mission to fulfill: If, instead of lamenting and saying that "women no longer want to cook, wash, iron and create homes", they will teach the new, the easy methods that genius and science have developed for us, then the women will cook, healthy bodies will be built, perfect homes created and last, but not least, the gas meter will spin around many times a day and labor-saving appliances will be installed.

R. C. CORNISH, Philadelphia

AT no time in the history of the industry has the gas engineer been confronted with problems of greater magnitude than are before him today. New and larger applications of gas for domestic and industrial uses are requiring rapid enlargement of manufacturing plants and extension of distribution systems. Diminishing supplies and increasing prices of raw materials are making it necessary to carefully study manufacture for greater economy in production and to install apparatus best suited to the use of the available raw products.

The immediate problem is to determine the kind and quality of gas that can be most economically made from the available materials, and at the same time supply our consumers with a product that will burn with the greatest efficiency at a minimum cost. Coupled with this is the adaptation of existing plants and distribution systems to the ever increasing demand by so extending them that there will be no undue scrapping of the plants or mains. This must be done in such a manner that they will be sufficiently flexible to take care of seasonal loads, as well as future requirements.

J. A. PERRY, Philadelphia

TO satisfactorily handle and economically develop the gas business with our existing perfected types of gas manufacturing apparatus, we need heating value standards at least as low as 440 B.t.u. and possibly as low as 400 B.t.u. With such a standard we can fashion or make the gas supplied of practically the same gravity throughout the year, notwithstanding wide variations in gas demands.

This lower standard of 440 B.t.u. heating value will, especially with the use of coal-gas plants, greatly reduce the amount of oil required for gas making, and this in turn should tend to stabilize the cost of gas oil. Therefore, the cost of any necessary lightly carburetted water gas would be stabilized and much lower than would be the case if a higher heating quality of gas were supplied.

H. DeWitt Valentine, Chicago

THE data now presented is sufficient to lead us to believe that the time for artificial refrigeration and its development is at hand, and that the sooner the manufacturer, the gas company, and the public will realize that the absorption type of machine, coupled with the use of manufactured gas, presents opportunities in a very interesting field, the better it will be for all concerned.

Although essentially dealing with small household refrigerators, the committee is very optimistic as to the fact that the future of refrigeration is far from restricted to such operations. That this condition is already an actuality is shown by the numerous theatres, halls, and office buildings in which the air is now cooled, during the summer, before being admitted to the various rooms in which the public gathers. It is just one more step from the theatre to the home.

J. G. Reese, Baltimore

THE recent destruction of a large number of records of a utility company proves the need of a careful survey of records, and sufficient protection for such as are vitally important. Some of these records were so old as to be almost historical. In this case, however, the records which were destroyed were those that had outlived their usefulness, and the destruction was intentional.

When the discussion of proper protection for its records arose in a large utility recently, it was decided that the first step necessary was to determine which records should be retained. It turned out to be a large job, but when several departments had been surveyed, it was found that large numbers of so-called important records could be destroyed. Consequently more than 31 tons of paper were moved out of this company's record room. And that was only a beginning. The survey is still going on.

J. J. Humphreys, Montreal

THROUGH our street lighting connection, many gas companies became the pioneers in the electric field also and each year seems to prove more and more that these two utilities should be under united management. They are complementary and every progressive utility man has at least the wish to wipe out the legal regulation bars and capital barriers, so that there shall no longer be the waste organization of two groups to do one job.

The present year and the years ahead are full of prospects for gas and electric combinations and the bankers and investing public are anxious to finance such combinations because they are economically rational.

George D. Roper, Rockford

I AM sometimes led to believe that the manufacturers of plant equipment and those whose business it is to supply the appliances for burning the gas have been a larger factor in the development of the industry than they sometimes receive credit for.

The plant and appliance company end of the gas business has spent, and is spending, millions in development work, but this effort has been curtailed at times by the conservative attitude of the utilities themselves. I believe that plant and appliance men can be and should be encouraged to do much more than has been done, and that is, to my way of thinking, one of the big things the utilities can and should do.

JOHN I. BLANCHFIELD, Brooklyn

THE accounting methods of the past have failed to fully disclose all the items of cost incurred in the building of a utility enterprise. I therefore wish to urge the delegates to adopt a system of accounting which will record fully and accurately the cost of each item of property, to the end that book entries, made contemporaneously with the construction work, may in respect of each element of cost, as a matter of history, sustain future engineering estimates of property value.

MARTIN L. PIERCE, North Canton

FOR the most part the outstanding successes today in house-to-house selling are not those who are selling merchandise and mechanics, but those who are selling ideas. The housewife is being sold the use of gas to give her adequate and even temperature. She is being sold the idea of using electric power instead of bone and muscle. She has been sold the idea of reading current magazines and gleaning modern up-to-date methods of housekeeping instead of rule of thumb or trial and error that her mother and grandmother have used for ages.

MELVIN T. COPELAND, Cambridge

THE gas industry, in contrast to many mercantile businesses, is suffering from a tradition. That tradition is that merchandising effort is not essential for the gas industry, because consumers cannot buy gas elsewhere. The fallacy in this tradition is that, although a gas company has a local monopoly of the gas business, it does not have a monopoly of the fuel and heating business. Even after it has secured the installation of a gas stove, furthermore, to take that appliance for one example, the gas company does not have an assured monopoly of any definite share of the consumer's expenditures. Unless the stove continues to function properly, it will not be used to the maximum.

The opportunity for merchandising in the gas industry, therefore, is to manifest the same sort of interest in the ultimate and continued satisfaction of consumers that is manifested by real merchants in other industries.

GEORGE B. HOTCHKISS, New York

ALL good advertising renders some service to some one. The amount varies all the way from the little lost and found ad that is important to only one person in the world to the advice on health and diet broadcast by a great insurance company to millions of people through full pages in our national magazines.

Highest of all in educational value are those advertisements that teach us how to live more comfortably, economically and intelligently. Such advertising is not altruistic, of course, but the benefit to the advertiser is sometimes far less important than the benefit is to the reader, and comes only after the reader—the consumer—has reaped his personal reward.

MRS. ANNA J. PETERSON, Chicago

THE flapper of today, with her bobbed hair and rolled hose, is wiser than the wives of old, for she realizes that what a man really wants when he asks her to marry him is a girl who can go into the kitchen and cook delicious food, and be a good pal too.

She isn't taking any chances with the divorce court, so she says, "Yes, John, I'll marry you if you will get me an up-to-the-minute stove with measured heat in the oven, an electric washing machine with gas heat under it, and a gas-heated ironing machine."

R. F. BONSALL, Baltimore

AS the majority of our customers are honest and are entitled to service with the least possible delay, we recommend that gas be turned on without waiting for credit rating to be applied. Where investigation discloses a customer is not entitled to credit, we should secure a deposit promptly or refuse longer to supply the gas.

The experience of a number of companies demonstrates that deposits should only be required where the risk is known to be financially irresponsible or where there is no evidence of stability in occupation.

HERMAN A. GROTH, Chicago

THE great modern symbol of conservation is the gas tank that towers above every city skyline. It makes possible gas cooking, gas heating, gas refrigeration. The gas plants of the country hold a vast power for public health and civic beauty. They can substitute for the wasteful burning of ten million coal piles the scientific conversion of raw fuels into the refined and concentrated fuel we call gas. They can set up standards of cleanliness and public health now impossible. The maximum uses of gas will make this dream a reality. Newspaper advertising, which is the quickest education, will do it.

GEORGE B. EVANS, St. Louis

TWO things occur to me which are now of particular interest to the technical man in our industry. First, the standard under which he will be required to manufacture gas. Second, the rate structure upon which the gas sales will be increased.

The regulating body runs no risk in permitting a gas company to select its standard of quality, and fixing the rates at which the product may be sold after the proof of good service and the cost of the service have been established. The American Gas Association should endorse any effort made by a member company to operate under a standard selected by itself.

HARRY A. CURTIS, New Haven

DURING the past ten years there has been a drawing together of what have long been two rather independent branches of the coal carbonizing industry—coke production on the one hand and gas production on the other. The technical problems encountered in the two fields certainly have much in common, and with the increasing utilization of the coke as a means of producing city gas, the old distinction based on coke oven versus gas retort becomes less important.

The adoption of the coke oven in the gas industry, however, is only one phase in what appears to be a real revolution in methods of gas production, and if this results in an expansion of the industry, the production of by-product nitrogen will likewise expand.

JOHN M. ROBERTS, Chicago

THE periodic moving seasons present a problem to all utility companies. We look at these spring and fall migrations with considerable apprehension, for they are movements along the line of the most resistance; but if we forget our worries for a moment in the endeavor to keep our reputation for service to our customers up to the required standard, we can see distinct benefits to the business of our town or city. New furniture and new house fittings must be procured, therefore better business. Even better citizens, for there are new resolutions as to prominence in the new neighborhood, new affiliations, even churchgoing is considered, for there are new clothes.

So we bend to our efforts to keep our telephone lines clear of congestion, and our traffic in our offices moving freely, and give service without stint to help our customers who are trying to better themselves and the business of our city.

JOHN F. WEEDON, Chicago

BEING a public utility, serving high and low, rich and poor, native and alien, the gas company, above all other companies, is compelled to consider advertising mediums in a broader and more comprehensive manner than if it were merely a merchandising organization with a more or less well-defined clientele.

Many publications, small newspapers and so forth, that from a cold-blooded business point of view are not worth a whoop as sales producers, are nevertheless potent, in the aggregate, to increase or diminish that much-desired friendly feeling between the whole community and the company, which we classify under the head of "goodwill."

L. E. COVER, Pittsburgh

UNTIL the introduction of insulation in residence construction, gas for home heating purposes could be sold on the basis of its greater convenience and cleanliness. Now, however, gas for home heating is removed from the luxury class and made available for every home builder through the medium of heat-tight construction.

We have always built our houses to

keep out the rain, sleet and snow, but never have we built them to prevent heat losses. And that is just why gas has been an expensive fuel. Houses of ordinary construction leak heat as a sieve leaks water, which has meant that the householder could keep his house warm on cold winter days only by making more heat, burning more gas in the furnace. The result was that the cost of the gas necessary to keep the house comfortably warm was almost prohibitive.

HORACE C. PORTER, Philadelphia

ALTHOUGH there is much development in oil gas on the Pacific Coast and in carburetted water gas throughout the country—judging by recent installation of equipment—still there are unmistakable signs pointing to a larger growth in the future, of processes making gas from coal. The use of by-product coke oven gas has increased more rapidly than any other during the last four or five years. Water gas, having many advantages, will be retained by the industry but its proportionate use is likely to decrease.

The large and increasing demands for oil in many fields, particularly for cracking processes to make gasoline, are admitted by the petroleum experts to be likely in the future to cut down the supply of suitable oils for gas making and for general fuel purposes. Coal in its abundant supply offers a cheaper raw material for the gas industry of the future. While the disposal of coke has in the past been sometimes a serious problem to the coal gas manufacturer, the future will see this problem diminishing, due to greater use of coke in gasification for lower standards of gas, and in its sale as an anthracite substitute.

L. J. WILLIEN, Boston

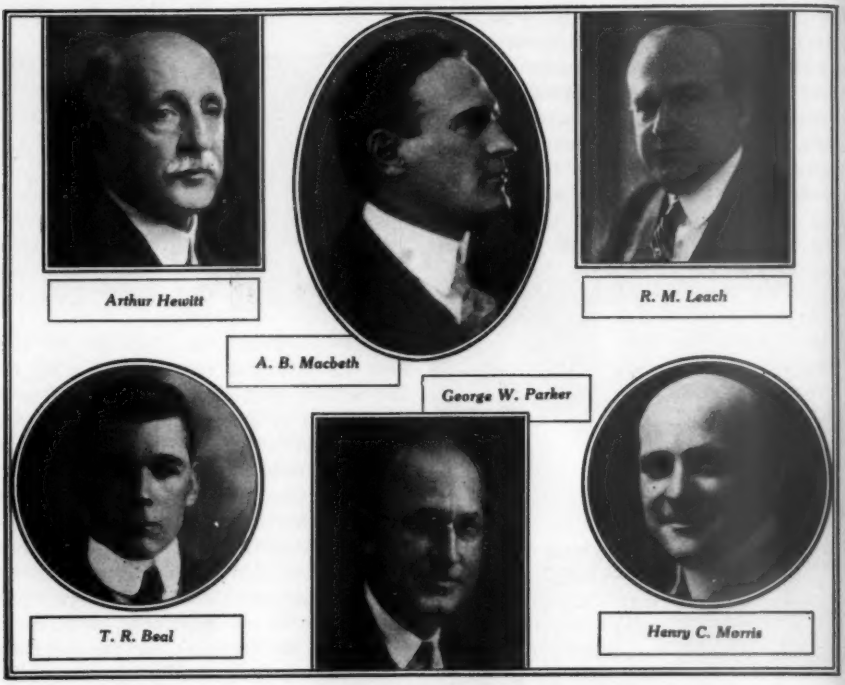
MORE progress has been made in the gas industry during the past ten years than in the fifty years preceding that, and I believe more progress will be made in the next ten years than in the past ten years.

The American Gas Association has been an important factor in the progress and development of the industry. I have been active in the committee work of the Association for the past few years, and each year there has seen an increasing interest in committee work. The meetings have been better attended and the discussions more interesting. The attendance at the convention has increased tremendously and there have been more open discussions at the meetings. With such spirit and co-operation the gas industry is bound to progress and progress rapidly.

G. S. CREMER, Brooklyn

SOME people think that every gas man belongs to an old Oriental fraternity called the Li Li Kel Club. As a matter of fact, every large gas company has to sacrifice each year about a whole month of the time of one of its best accountants giving careful and accurate answers to some fifty odd questionnaires sent to it by seekers after information, ranging in importance from departments of the Federal Government to college students gathering material for classroom essays.

Answering these questions truthfully in the way in which they are put is sometimes equivalent to telling a lie. Giving



Our Newly Elected Vice-President and Members of the Board.

a correct answer is not enough; we must be careful also to give a correct impression, even though that care forces us to refuse to answer a question in the way in which it is put.

JOE CARMICHAEL, Iowa

AFTER many years' connection with the newspaper business, I am less impressed with the arbitrary power of the press than are many people. This arbitrary power is frequently magnified. Newspapers are the vehicles through which the public learns what is transpiring rather than the makers of public opinion. Of course, there are efficient and non-efficient vehicles, just as there are good and better gas engineers.

But the public is not childishly credulous and generally knows how to judge a good newspaper from a poor one. The wise editor, therefore, plays fair with the public. He gives the news and lets the people be the judges.

✣ ✣ ✣

AT the present writing the Laboratory has approved the following samples of flexible gas tubing:

TYPE	MANUFACTURED BY
3/8" Gaspruf Stove Tubing with Eureka Ferrules	Atlantic Tubing Co.
5/16" "W" Gas Tubing with Eureaka Ferrules	Atlantic Tubing Co.
5/16" Gaspruf Stove Tubing with Eureaka Ferrules	Atlantic Tubing Co.
5/16" Evertite Tubing with Aluminum Ferrules Crimped on	Eastman Mfg. Co.

Advertising That "Remains To Be Seen"

Are We Neglecting Another Golden Opportunity?

By JOHN F. WEEDON, Peoples Gas Light and Coke Company, Chicago, Ill.

Thousands of Dollars Are Spent on Billboards, Often Receiving Only Casual Attention. This Simple Announcement Costs Virtually Nothing, Yet Its "Pulling Power" Is Tremendous.

SINCE Adam built the first bower for his sweetheart, Eve, in the Garden of Eden, no other construction work has ever been half so fascinating as the erection of a home. To see any kind of a building, particularly one that is to be used for residence, has a lure for all mankind. No matter how practical and matter-of-fact a man may be, the sight of a home in the process of making stirs all the unconscious poetry and imagery of his mind.

The place itself may be, in its present stage, unlovely, creating an obstruction that causes the passerby some inconvenience, but he thinks nothing of it. The smell of new pine boards and fresh mortar fills his nostrils, like incense calling a priest to prayer.

He wonders what kind of a place it is inside, and tries to get a peek if he can. Just watch what children do when there is a new building in the neighborhood. No other place in the world, not even a Picture Palace de Luxe, has half the charm for them as "the new house."

Who will live in it? What kind of people will they be? What sort of furnishings will they have? A new building is bursting with questions, even as an ant hill is alive with ants.

Grown folks are not so apt to put their

questions into words, but grown folks are only children a little bit older. The same curiosity stirs their minds.

As they pass the new building they see that "Stoke and Shake", heating engineers, are putting in the new furnace. They know the "Stoke and Shake" furnace. It is a pretty good one, as coal furnaces go.

Then they see that the sash, door frames and trim have been furnished by the "Pine Planing Mill Company." That was the concern that burnt down last winter; they must have recovered from the fire.

The hardware is being furnished by the "Bolt and Bar Company" — the passer-by is reminded that he must get a new lock for the front door; probably the "Bolt and Bar Company" is just the place to go for it.

Saying It Boldly with Bold Face. Type of Poster Placed on Building under Construction. Is This Properly the Function of the Gas Company of the Appliance Dealer?

He notices a new kind of refrigerating plant is going in. He never heard of it before and wonders if it is any good; makes a mental note to ask about it; he will be wanting a refrigerating plant himself pretty soon.

And so we might go on through every item that goes into the construction of a home, or any other kind of a building. We do not see all the placards in one place, but we are pretty sure to see at least one placard in all the places.

Have you not all seen these notices, and had some similar reflections to these pass through your mind?

But did you ever see a building with a notice to the effect that a "Gas-Fired Central Heating Plant" was being installed? Or that "Every one of the 54 apartments in this building are furnished with handsome open gas-grate Radiant fires?"

If you were in search of a new apartment, and had suffered from a lack of abundant hot water in your present location, how would this appeal to you? "A 250-gallon gas-fired Water Heater will be placed in this building, insuring all tenants an ample supply of hot water at all times."

These are all creature comforts —something to tell the folks about. It may leave you cold to learn that the building is to be insulated with mineral wool, or that the facing bricks were made by "Puddle and Clay"; but you surely would warm up to that idea about hot water, and if you had ever drawn your chair close to a Radiant fire on a chilly evening, when the furnace was not working well, you surely would get a glowing reflection from the fact that Radiant fires were going in this new building too.

But how many gas companies are advertising these facts on new buildings? I do not visit many cities myself, but those I have visited never startled me by exhibiting any activity along these lines.

It is surely something that should be done, and could be done easily and inexpensively. The gas company, of course, wants to co-operate with all heating and

This "Gas for Heating" Sign Caters to the Curiosity of the Neighbors and Lends Distinction to the New House.

ventilating engineers and plumbers. It could supply them, at small cost, with printed cards, showing THEIR names, and at the same time informing the interested and anxious public what part gas will play in the comfort and convenience of the coming residents.

This is an advertising job, and probably has not been properly looked after from lack of a tie-up with the gas company representatives who are on the firing-line with architects, builders and contractors.

Each case would have to be treated individually, at least for a time, until experience had determined how far certain cards might be standardized. It is a case for individual contact with the plumber, or house-heating engineer, and it must be done with his knowledge, approval, and assistance. There need be no particular expense involved. It is more a matter of co-operation and understanding between an outsider and two departments of the company, whose work, normally, does not bring them closely in contact, and neither may know very definitely what the other is doing.

Suggestions have been made in times gone by, and thought favorably of by many people, that national display advertising by the gas industry should be promoted. Setting all other questions aside, it would be quite expensive to do adequately, and it would be hard to satisfactorily allocate the expenses and satisfy each company that it was getting its money's worth.

But if EVERY gas company, in EVERY city, large and small, will undertake to placard every new building in course of construction with a simple statement of what gas equipment is going into that building, and inferentially informing the public of the comfort and benefits to be derived from gas, it would approximate a national campaign of enormous magnitude comparable to bulletin boards on all the public highways. There will be no question of distributing costs, each company will do its part and bear its own expense. In fact this is a matter that engages brains, and not much of them, rather than bullion.

Will member companies who are willing to follow this or some similar plan please register their intention with the editor of the A. G. A. MONTHLY? This will give us a check-up on how far the plan can be made to approximate a national advertising campaign, which, if carried out adequately, would entail the expenditure of millions of dollars.

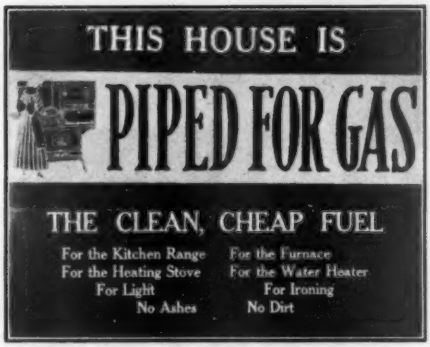
The Idea Is Applicable Even to Industrial Gas. Gas Men Take Gas for Granted. Others Must Be Told.

Continuing the Discussion

A Little Goodwill Effort Among the Contractors Will Put Your Tag On Every New House in the City

By a Correspondent

IN the city, town or countryside, everywhere, the eye meets with new buildings under construction. A building in course of erection is an interesting object of attention. It is human and natural to look at or watch a new building going up. It brings the thought of what that particular structure may mean in added comfort and conveniences. That new building expresses faith in neighborhood and community.



Buildings in course of erection are natural focal points of interest. They are extraordinarily valuable advertising mediums. They should be capitalized by every gas company. New customers must be brought into the market and old customers taught the use of more service. The constant effort of all utilities to give better service and make possible a wider use of gas makes for a greater public good. All that is admittedly true—among us—but why not take every means to let the public know these facts?

Therefore, consider the value of structural advertising. Gas service will be installed in these buildings. The gas piping system and gas equipment has probably been laid out and suggested by the local gas company. A sign or poster on the building in course of erection, or even on the contractor's shanty, should be posted or hung. Such space should readily be given to the utility company supplying the service. It is ideally adapted as a medium for new business ad copy by adopting or using a present form of slogan that your company's service is 100 per cent, or by statements that the building will be equipped with a gas steam boiler for house heating and water heating. Whatever the copy used, if consistently and persistently posted, such repetition will build belief in the service supplied. Continuous advertising of this kind should create a valuable asset to any company.

Surveys made by the National Real Estate Association recently show that construction is going on in every state and in almost every section of the country. In this connection, consider the fact that people spend more time outdoors today. Consider, also, the number of people who pass by bus, street car, automobile and on foot. The number of passersby may be termed actual circulation, just as the advertising value of a magazine or newspaper is judged by its circulation figures.

On whatever basis one judges structural advertising, certainly one outstanding feature is economy. This should be a clinching argument when it is compared with other major advertising mediums now in use.

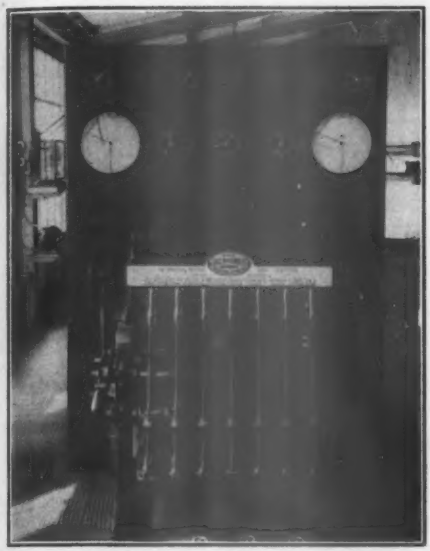
In Memoriam

Edward James Shields, Brooklyn Union Gas Company

Automatic Oil Gas Machine Control

As Worked Out on the Two Shell Generators in the San Diego Gas Plant

By J. A. HARRITT, San Diego Consolidated Gas & Electric Company



Automatic Control for Jones Gas Machine at the Plant of the San Diego Gas and Electric Company.

THE eyes of the gas industry on the Pacific Coast are turned with curiosity and interest upon the plant of the San Diego Consolidated Gas and Electric Company of San Diego, California, just at present, because of some of the more recent innovations in gas machinery being tried out here.

In 1922, this company built a two-shell oil gas generator set, of a type patented by the Oil Gas Process Company of San Francisco, and of 5,000,000 cubic feet daily capacity, normal rating. In so far as the science of oil gas manufacture has advanced, this set was the last word in efficient oil gas manufacturing apparatus.

The set is operated from a central control board, direct action, by levers, being obtained on oil and steam valves; while distant operations are effected by hydraulic control from the central board. All operations are performed manually.

The success of this control mechanism led to the belief that automatic control of an oil gas set could be accomplished.

Consequently on a similar generating set, just completed, we have installed such control apparatus.

To our eastern friends who are familiar with the automatic operation of water gas sets, such an installation would excite no comment; but, owing to the difference in operating methods, the increase in number of movements to be made, and the variable conditions constantly arising in oil gas manufacture, many difficult points had to be overcome, and a great deal of study was required in order to fit automatic control to the peculiar cycle of these particular sets.

L. B. Jones, president of the Oil Gas Process Company of San Francisco, should be given the credit for having successfully designed the apparatus to overcome these difficulties. Considerable study, ingenuity and engineering ability were required in the consummation of this objective, in which the operating department of the San Diego company could aid only in so far as local conditions were affected. As in previous labors, Mr. Jones' interest in the development of the most efficient gas manufacturing apparatus is manifest in this installation.

A partial description of such a set, with its normal cycle, seems necessary to understand thoroughly what is required of an automatic apparatus.

These sets consist of a primary and secondary shell. The primary is 18 feet, 9 inches in diameter by 47 feet high, and the secondary is 18 feet, 9 inches in diameter by 57 feet high. The two are joined at the bottom by a tunnel, and gas off-take is located just above the tunnel connection in the secondary shell.

The combustion chamber and 24-inch blast valve are located in the top of the primary shell. The fire driven down passes through and heats the primary superheater—a bed of checker-brick. Below this is the main body of primary checkers. After this checker bed the fire traverses the tunnel and is driven up through the secondary checkers, thence through the secondary superheater checker-brick as in the primary, and out through the stack valve.

Secondary blasts are installed at the bottom of the secondary shell. The operation of each cycle is as follows, starting with an open stack:

1. Open primary blast, full, and hold for two minutes.
2. Close primary blast to about ⅓ (determined by condition of generator, temperature, etc., somewhat variable due to carbon and quality of oil used).
3. Open secondary blasts, full, and hold two minutes. (Also somewhat variable for same reasons as above).
4. Close secondary blasts.
5. Open primary blast, to predetermined amount for combustion of fuel oil.
6. Open atomizing steam valve to heat sprays.
7. Open oil valve to heat sprays. Inject heat oil and steam for six minutes. (About 50 gallons of oil are used for heating under normal operation.)
8. Close oil valves.
9. Close steam valves.
10. Close blast valve.
11. Open main gas valve on outlet of primary scrubber.
12. Close stack valve.
13. Open steam valve to primary superheater.
14. Open steam valve to secondary superheater.
15. Open steam valve to primary make sprays.
16. Open steam valve to secondary make sprays.
17. Open oil valve to primary make sprays.
18. Open oil valve to secondary make sprays.

A normal make consists of 290 gallons of oil in the primary shell and 175 gallons in the secondary shell, with approximately 3000 lbs. of steam through the superheaters of the two shells. The superheated steam is used to react with the carbon deposited in the checkers, thus making a substantial quantity of water gas along with the oil gas.

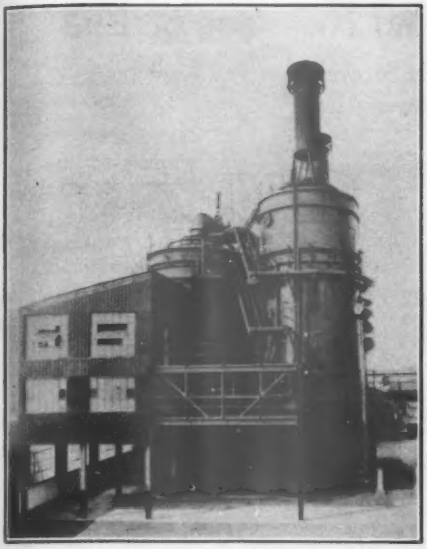
Ten minutes is allowed for the making period, the oil and steam valves being closed in reverse order to their opening, and the operation concluded in the 10-minute period.

This is, substantially, the routine duty devolving upon the automatic control, the regulation of pressures on various lines being controlled by hand-regulated diaphragms on the control board, hydraulically connected to a standard type of diaphragm pressure regulator on each steam and oil header. There are 24 movements required; but as 12 of these are reverse movements, there are 12 major operations required. These we accomplish with a seven cylinder hydraulic automatic, built by the Gas Machinery Company of Cleveland, Ohio.

As the stack and scrubber valves work at the same time in opposite directions, they are connected with one valve or cylinder of the automatic mechanism, with crossed control lines. For safety there is a retarding device on the stack valve control lines to prevent its closing until the scrubber valve has started to open.

As spray steam must always be admitted before the oil, the spray steam valves only are connected to the opening end of the automatic. When steam is admitted to the spray headers and pressure has built up to the required amount, this pressure is used to open the oil valves to the spray headers. The automatic closes the oil valves and steam valves with one operation.

The handling of blast valves, or, to be more exact, the throttling of the primary blast during the period of secondary blasting, brought up another problem, which we solved by placing a diaphragm valve in the blast line ahead of the pri-



New 5,000,000 Cu.Ft. Daily Capacity Two-Shell Oil Gas Generator Installed at San Diego. This Is Said to Be the First Oil Gas Machine to Have Complete Automatic Control Equipment.

mary blast valve. This diaphragm is controlled hydraulically from the secondary blast control of the automatic, closing to a predetermined point when the secondary valves open, and opening full when the secondaries close, by a system of crossed control lines.

Although the set is not yet in operation, tests of the automatic control are highly satisfactory.

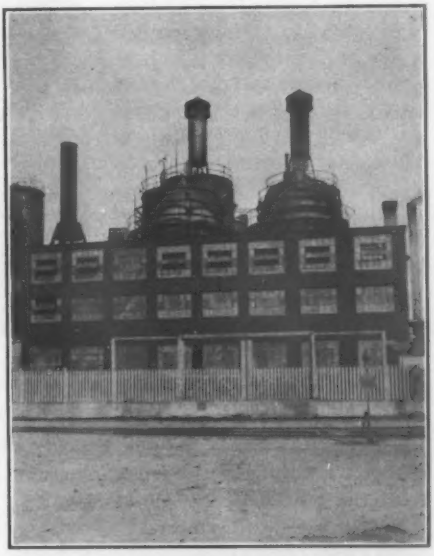
The oil used for gas making in California is a residuum asphaltum oil running from 15° to 19° Be., and averaging about 16.5° Be. The pitch, coke and residue content average about 16 per cent. To this we attribute the difficulty of maintaining a constant cycle, and at the same time maintaining a constant product therefrom.

The average temperature maintained in the checkers of these sets, making 550 B.t.u. gas, is about 1750°F., the primary being about 300° hotter than the secondary at the beginning of the make period. By-products produced are 12 to 14 lbs. of dry lamp-black (carbon) and 3.5 lbs. of dry tar. These figures vary somewhat with the character of oil used, as does also the oil per M.

Due to the many variables entering into oil gas manufacture, such as the accumulating and decomposing and burning off of carbon, and the frequent changes in character of oil obtainable, with a consequent necessity of minor changes in the cycle of operation, it has been deemed necessary to rely upon the personal factor of experienced operators to keep each set in proper condition. For this reason the first automatic control to be placed on an oil gas generator naturally has created great interest, and has aroused considerable comment pro and con.

We believe that the increased flexibility of control of the two shell set over the straight shot set adapts the former to automatic control, whereas, with the latter type, we consider satisfactory automatic control extremely problematical.

We hope with our automatic control to be able to operate one of these large sets continuously without change, producing a uniform product at a uniform cost.



Rear View of the Two Jones Oil Gas Machines Showing Operating Gallery.

Honoring the Savers and Restorers of Life

Presentation of Medals Thrills Second General Session of A. G. A. Convention

THE hardest thing about writing an account of this kind is to describe the event without using high-falutin' or more or less meaningless phrases like "resuscitation", "asphyxiation", "accident prevention" and the like. Actually, it is the story of nine men who saved the lives of six other men and women. Their acts and deeds are recognized by an entire industry before its thousands of delegates from all parts of the country. Such recognition by the industry is tantamount to a public declaration that the gas man is as much concerned with the safety of his product as with its convenience.

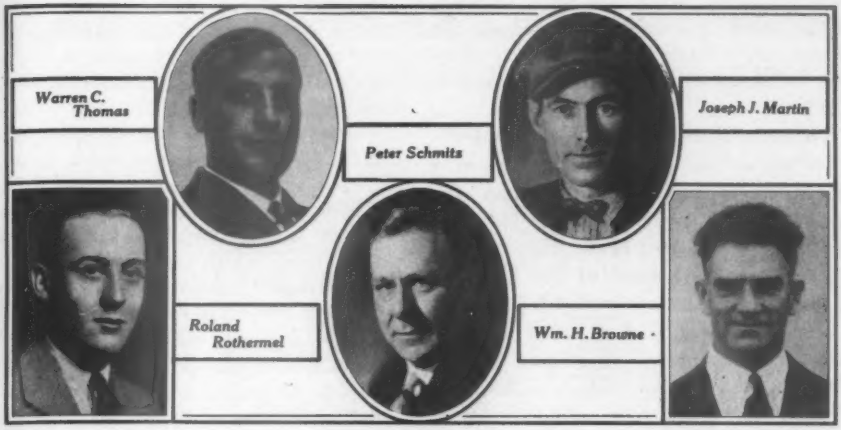
The A. G. A. Meritorious Service Medal, Presented through the Generosity of Walter R. Addicks, Vice-President of the Consolidated Gas Company of New York.—At Top, Timothy Dwyer, of the Cambridge Gas Light Company, Recipient of the Medal.

The roll of honor, recipients of the McCarter Medal and Meritorious Service Award at the Wednesday morning general session of the Convention, represented gas companies in Massachusetts, New York, New Jersey, Pennsylvania and Illinois. Later on medals will also be presented to two men from the Pacific Coast. But that is another story.

As every cast has its star, this one has Timothy Dwyer, sixty-one years old, winner of the A. G. A. Meritorious Service Medal, unanimously declared to have performed the most heroic deed within the gas industry during the calendar year, 1924. It was a proud day for Dwyer, — as why shouldn't it be?—but the sense of pride was fully shared by the Convention and particularly by Albert M. Barnes, Dwyer's employer, who is president and general manager of the Cambridge Gas Light Company of Massachusetts.

"Just a word," Mr. Barnes wrote to Secretary-Manager Alexander Forward the other day, "to tell you how pleased I am to learn that the Addicks Medal for bravery comes to one of our men this year, and how proud I shall be when 'Tim' comes forward at Atlantic City to receive it.

"Courage and bravery in emergencies are necessarily inherent qualities which respond spontaneously to the occasion without any consideration of personal consequences, and it is fitting that the Association should appreciate and recognize that noble spirit of heroism which looks solely and without hesita-



Five New Members of the McCarter Save-a-Life Fraternity.

tion to the protection of others in times of danger."

Timothy Dwyer is yard foreman with the Cambridge Company, and it was on June 16, 1924, that he "had his chance" and came within an ace of losing his life making good.

On the day in question, Dwyer, with a crew of six men, were dumping a sponge through the dumping holes of a water gas purifier box. All precautions had been taken, such as shutting off the gas, sealing the valves the night before, and purging the box with steam early in the morning.

Dwyer was standing near one end of the box while the men were engaged with picks and bars in loosening the sponge and pushing it down through the dumping holes. Suddenly one of the group, a man named Lama, happened to strike a spark which caused a small flame to lick downward through the dumping hole.

Dwyer caught the flash out of the corner of his eye, foresaw at once the possible results and shouted out a warning. Before most of the men could get out of harm's way, an explosion lifted the whole upper layer of oxide about a foot in the air, then dropped it back in place, while long flames shot up from the dumping holes.

Lama, standing at the edge, stumbled and fell into the hole. Although the building by now was filled with a dense, black smoke, Dwyer plunged into the hole and lifted Lama out to the floor. He called for help, but all the rest had escaped into the yard. Alone and unaided, his hands scorched and blistered from the flames, Dwyer pulled his fellow employe out into the air to safety.

In the opinion of the physicians who treated both, not only did Dwyer save the other's life, but his promptness and disregard for his own welfare saved Lama's eyesight which would have been undoubtedly destroyed by even a minute's longer exposure.

McCarter Medals Awarded

The restoring of life by the Schafer method is seldom as spectacular as this, and the risk of one life for another is usually not a factor. Promptness, however, and frequently persistence, sometimes make all the difference between tragedy and success.

Therefore, Joseph James Martin, of the Adirondack Power and Light Company, was awarded a McCarter Medal

for saving the life of a woman who was overcome by gas in the basement of her home, and a certificate was given to Martin V. Leonard of the same company, who helped him.

Roland Rothermel, of the Allentown-Bethlehem Gas Company, was given a medal for saving the life of a man who was overcome while sleeping in his room with an unventilated heater burning.

Warren C. Thomas, of the Syracuse Lighting Company, was awarded a medal for saving the life of a fellow employe who tried to cut into a fuel line without shutting off the gas. John L. Sellin, who helped administer first aid, received a certificate.

William H. Browne, of the Public Service Electric and Gas Company, also received a medal for restoring a victim who was overcome while working in an insufficiently ventilated manhole.

Peter Schmitz, of the Peoples Gas Light and Coke Company, went to the aid of a woman overcome in her home by gas escaping from a leaky fixture, and received a McCarter Medal for his promp work which saved the woman's life. Patrick Quinlan, a fellow worker, received a certificate for his help.

The awarding of these medals and certificates as a regular part of the program is rapidly becoming one of the most interesting features of the Annual Convention.

The Latest Fashion in Gas Bills

Automatically Rendered and Collected by the Bank

By B. B. FERGUSON, President, Portsmouth Gas Company, Portsmouth, Va.

B. B. Ferguson

HAVING noticed that there were a great many business men, along with some very substantial citizens, who failed to take advantage of the discount, either through lack of incentive to save it or being unable to get to our office during our discount period, we suggested the following arrangement for the prompt payment of their bills which would make it possible for them to avail themselves of the discount privilege.

Knowing that the majority of people who pay bills nowadays do so through the banks, we suggested that we be made responsible for the prompt payment of the customer's bill by allowing us to put his bill, with a draft, through our bank for collection, the customer instructing his bank to honor the draft on presentation by us. This relieves the customer of the worry of seeing that the check is drawn promptly and mailed, or that call at our office is made by his office boy, himself, or some member of his family, the burden being transferred from the customer to the gas company for the prompt payment of his gas bill.

We have been able perfectly to satisfy the customers who are availing themselves of this privilege, and very few occasions have arisen where there has been any question of the draft drawn. There has been no occasion where a thorough understanding has not been arrived at by the customer and the gas company.

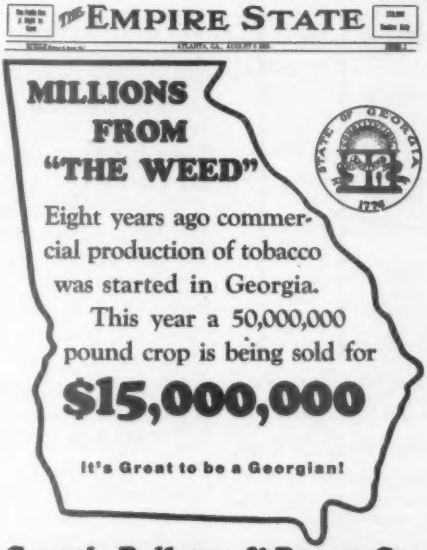
Our list is growing monthly, and while it is not as large yet as we hope it will be later on, we feel that we have made a step forward in point of service rendered to the consumer.

Casting the Bread of Good Will Upon the Waters

How Georgia's Public Service Became a Second City Hall

By KENNETH F. SAPP, Georgia Railway and Power Co., Atlanta, Ga.

COMMUNITY advertising by public utilities, a field which public service corporations have begun only recently to exploit on a considerable scale, has, essentially, two motives. In the first place, it is of great assistance in upbuilding the community or section to which it relates, with absolutely no cost to the community; and secondly, it indirectly benefits the utility serving that particular section by enlarging the potential field of the utility's activities.


THE EMPIRE STATE
MILLIONS FROM "THE WEED"
Eight years ago commercial production of tobacco was started in Georgia.
This year a 50,000,000 pound crop is being sold for
$15,000,000
It's Great to be a Georgian!
Georgia Railway & Power Co.
A Venture in Unselfish Community Advertising Whose Slogan Swept the Entire State.

Such advertising, however, reacts to the benefit of both community and utility in several other ways. By helping to arouse the pride of the people in their own community through advertising, the utility attracts attention to its own standards of service as one factor of community pride, and its service facilities as one of the inducements the community has to offer to prospective new industries and new citizens. Indirectly, it advertises to the community that the utility offers a service of such high quality that it fears no scrutiny, and in this and other obvious ways it serves as one of the best kinds of good-will and institutional advertising. Through advertising of this nature, the utility also gains recognition for its position of community leadership and its contributions to community progress.

By helping, through its advertising campaigns, to attract new industries, capital and citizens to the affected district, the utility automatically widens its field of service, along with that of every other individual and concern in the community.

The Georgia Railway and Power Company has carried on an extensive campaign of advertising of its territory, covering Atlanta and seventy towns in north Georgia, and good results have been obtained.

A series of advertisements setting forth the advantages of each of the communities served by the company was run recently in *The Manufacturer's Record*, each community being given a separate advertisement. In each of the advertisements, inducements offered to manufacturers and home seekers by the Georgia city in question were set forth and explained in detail. The population of the city was shown, together with its railroad and other transporation facilities, its natural resources, its present industrial developments, its climate and living conditions, data on its churches and schools, its labor supply, its tax rates, its prospects

By Helping to Bring New Industries, Users of Gas and Electricity, into the State, the Utility Prospers Directly with the Community.

for future developments along all lines, and the fact that an abundance of hydro-electric power was available for industries.

This advertising was run without cost to the communities, the entire expense being borne by the company. The company's name, however, did not appear in the advertisements.

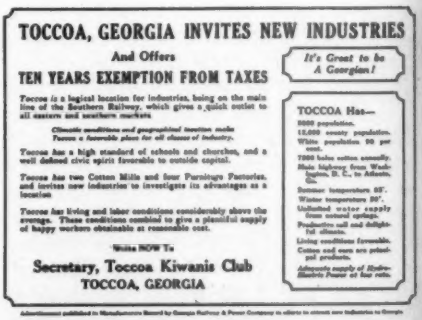
It is an undebatable fact that the advertisements proved of great value to the cities whose virtues were extolled therein. They not only gave manufacturers an accurate description of the cities and their inducements, but undoubtedly attracted the attention of many manufacturers to Georgia cities whose very existence might otherwise have remained unknown to them.

Appreciation of the advertisements was expressed by the individual cities in letters which poured into the Georgia Railway and Power Company's office from all sections of the state. Many of the letters expressed the opinion that the advertisements had been of incalculable benefit to the state as a whole.

Concrete evidence of the value of the advertising is given in the fact that a number of new cotton mills and other industries have been located in the territory since the advertising was started, in some instances the establishment of new industries following requests to this company for publicity about the section. Inquiries resulting from publication of this advertising also have supplied the company and the communities with the names of many interested persons comprising a valuable mailing list and prospects who may be interviewed personally by the company's industrial agents.

This and similar advertising now being published is designed to take advantage of the natural trend of industries, especially the textile industries, to the South from other sections. Georgia and the Southeast are a large and, for the most part, undeveloped field for industries. The section appears to be entering upon a period of great industrial expansion and we feel that its inducements are well worth advertising. The rest of the nation does not yet know of Georgia's abundance and variety of natural resources, its transportation facilities, its abundant labor supply and its power facilities. We believe that future generations will recognize this company's service as a pioneer in telling the world about Georgia.

The net result of this particular campaign was that practically every city mentioned in the advertisements was bene-


TOCCOA, GEORGIA INVITES NEW INDUSTRIES
And Offers
TEN YEARS EXEMPTION FROM TAXES
It's Great to be A Georgian!
Toccoa is a logical location for industries, being on the main line of the Southern Railway, which gives a quick outlet to all eastern and southern markets
Climatic conditions and geographical location make Toccoa a favorable place for all classes of industry.
Toccoa has a high standard of schools and churches, and a well defined civic spirit favorable to outside capital.
Toccoa has two Cotton Mills and four Furniture Factories, and invites new industries to investigate its advantages as a location
Toccoa has living and labor conditions considerably above the average. These conditions combined to give a plentiful supply of happy workers obtainable at reasonable cost.
Write NOW To
Secretary, Toccoa Kiwanis Club
TOCCOA, GEORGIA
TOCCOA Has—
10000 population.
15,000 county population.
White population 90 per cent.
7200 bales cotton annually.
Main highway from Washington, D. C., to Atlanta, Ga.
Summer temperature 85°.
Winter temperature 30°.
Unlimited water supply from natural springs.
Productive soil and delightful climate.
Living conditions favorable.
Cotton and corn are principal products.
Adequate supply of Hydro-Electric Power at low rate.

This Advertisement Created a Debt of Gratitude Which the Community Was Not Slow to Recognize.

fited industrially, whether by construction of new plants or increased business and consequent enlargement of those already located there. The advertisements, with the attention they attracted, also did much toward building up and reviving the faith of many of the smaller communities in themselves.

The company undoubtedly will show a return on the relatively small investment. Regardless of that phase, however, the company feels that it owes the various communities all the help it can give, as it realizes that to the communities it owes its very existence.

A national campaign of similar nature, but which relates to the state as a whole, without mention of any particular communities, now is being carried on through the columns of a number of widely read industrial and trade papers, including *Textile World, Forbes, Manufacturers Record, Cotton, Industrial Management, Shoe and Leather Reporter, American Wool and Cotton Reporter* and *Industrial Index*.

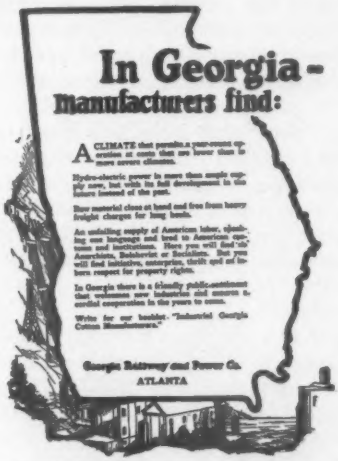
These advertisements deal with advantages offered manufacturers in Georgia, mentioning climatic conditions, availability of a high class of white, native-born labor, accessibility of raw materials of all kinds, and stressing the fact that hydro-electric power can be obtained at low rates, with emphasis on the statement that full development of this type of power lies in the future instead of the past.

It is our opinion that this series will be of direct benefit to the industrial future of the state as a whole, and, indirectly, will benefit the company.

Another form of community advertising which apparently has proved extremely beneficial is the "Empire State," an illustrated poster regularly displayed in the company's street cars in Atlanta. The poster is devoted exclusively to Georgia, and is published with the view of educating Georgians to the advantages offered by their native state.

Each of these posters carries the slogan "It's Great to Be a Georgian," and the messages are designed to develop state pride. Facts about the state's history, its progress in agriculture and industry, its educational facilities, the advantages it offers over other sections, its great men, and its contributions toward the advance of science and invention are included. No reference is ever made on this poster to the company or to utility problems in general.

The slogan, "It's Great To Be a Geor-



This Kind of Advertising Is Being Done, Not Occasionally, but Persistently.

gian," was coined and introduced by this company. At the start, the slogan created considerable amusement, with some scoffing, probably because the "Empire State" was this company's first venture in unselfish community advertising; but it now has been adopted as the official slogan of a number of state organizations, as well as individual communities, and is generally recognized as the unofficial slogan of the state. We regard the present popularity of the slogan as contrasted with its first reception as one of the best proofs of the goodwill value of this type of publicity.

The poster is displayed in all of the company's street cars, which, with a mailing list of over 1,000, gives it a wide distribution. The mailing list for the most

part is composed of persons who have requested that they be sent the poster regularly. School teachers in all parts of the state are among those who have asked to be placed on the mailing list, and the poster has been for years displayed regularly on bulletin boards in many school rooms. It is declared by the teachers to be valuable in classwork. Several public libraries also display the poster. We regard this as an invaluable form of goodwill publicity in that it associates the name of the company with the progress of the state in the minds of the children.

The company also participates in cooperative advertising of the cities in its territory and the state as a whole.

An illustration is in a page published weekly by *The Atlanta Constitution* for the purpose, as stated by the newspaper, "of promoting a better understanding of Atlanta by Atlantans, and to acquaint home folks with Atlanta's solid and progressive position as one of America's leading cities."

The cost of this advertising, which is to be run weekly during the remainder of 1925 and during 1926, is underwritten by Atlanta merchants and manufacturers and this company. The Georgia Railway and Power Company's name does not appear in the advertisement except as one of the forty-odd firms underwriting the expenses, and the company expects no material benefit from the advertising except such, as explained previously, it will receive in the natural course of events through growth and expansion of the state and its communities.

The Georgia Railway and Power Company is thoroughly "sold" on the value of community advertising, both to the community and the utility, and is making this type of advertising a regular part of its relations with the public.

PHOTOGRAPHIC HANDBOOK

A handbook which has been published by Messrs. Burroughs, Wellcome and Company of England, containing a wealth of detail on developing, intensification, printing, toning, exposure, etc., will be of interest and benefit to gas engineers and students who have discovered how photography can aid them in their work.

THE TIDE OF MEN AND AFFAIRS

W. T. BAKER has been chosen president of the Utica Gas & Electric Company. Frank B. Steele, formerly vice-president and associated general manager, becomes first vice-president and general manager. Emerson P. Peck was chosen vice-president in charge of engineering, construction, electrical operation and distribution. George H. Stack is vice-president in charge of finance, accounting, etc. William J. Reagan is vice-president in charge of commercial and public relations.

William J. McSorley, formerly assistant secretary, was chosen secretary. L. A. McVeigh and Miss Sara Harris were named assistant secretaries. John F. Carney and Thomas Ealy were chosen treasurer and assistant treasurer, offices which they have been holding.

The Board of Directors consist of Charles S. Ruffner, president of the Mohawk-Hudson Power Corporation; Charles S. Brewer, chairman of the board of directors of the Mohawk-Hudson Power Corporation; Myron G. Bronner, William T. Baker, Frank B. Steele, George H. Stack, Alexander F. Hobbs, John A. McGregor and O. J. McKeown.

CHESTER GREY, manager of the Lansing Gas and Fuel Co., of Lansing, Mich., is the new head of the Atlantic City Gas Company. Mr. Grey is well known among officials of gas companies of the West. He has had long experience and has seen notable service.

Mr. Grey succeeds the late Carlton Geist, who was executive for many years. Mr. Geist died recently at the City Hospital after a protracted illness.

Besides his western activities, Mr. Grey has been associated with gas interests of Atlanta, Ga.

C. W. KELLOG, of Stone and Webster, Inc., has been elected president and a director of the Engineers Public Service Company. The following new directors were elected: Homer L. Ferguson, Andrew Fletcher, Eppa Hunton, Jr., C. W. Kellog and Arthur W. Page.

THOMAS LYSANDER WHITE, new business manager of the Danbury and Bethel Gas and Electric Company, has been transferred to the Republic Light, Heat and Power Company, where he will hold the same position.

JUDSALL BONSALL, former special meter inspector of the Observation Station, Pittsburgh, Pa., has been made assistant superintendent of the Compressing Stations at Clarksburg, Va.

CHARLES ELLISON MARTIN, formerly cadet engineer of the Public Service Electric and Gas Company, has gone with the Gardner Gas, Fuel and Light Company, Gardner, Mass., as superintendent.

When It's Canning Time in California

Western Gas Men Demonstrate the Values of Concentration and Cooperation

By J. CHARLES JORDAN, Pacific Gas and Electric Company

THE fruit crop in California this year was most bountiful, so much so that early in the season it was apparent that some stimulant was necessary to take care of the marketing situation. A large surplus creates unsatisfactory selling conditions, usually resulting in low prices and waste of crops due to inability to harvest with a satisfactory return to the producer.

To offset this condition, a movement was inaugurated by the Gas Appliance Society of California, cooperating with other enterprises, to stimulate home canning. A concentrated drive was put forth to reach the objective. Sugar manufacturers, grocers, producers, dealers in household appliances and gas appliances and the gas company held "get-together meetings" resulting in an extensive cooperative program, each rendering support to the movement.

The Pacific Gas and Electric Company devoted all of its gas advertising space for the months of July and August to the drive. Special advertisements, as shown here, were run in all daily papers published throughout the territory served with gas by the company. More than 5,000 column inches of space were used in 68 newspapers.

Furniture and gas appliance stores in

Modern Preserving is easy

—and this season—when apricots, peaches and 'most all California fruits are so plentiful—is an excellent time to preserve summer "treats" for winter days—

Especially, when you use the modern method of canning in a temperature-controlled gas oven, for then, the fruits retain their natural color and flavor.

Simply prepare your fruit in the usual manner. Pack in ordinary glass jars and add boiling water or syrup. Place the jar-rubbers in position and adjust the lids loosely. Put the jars in your temperature-controlled oven and cook for the prescribed time.

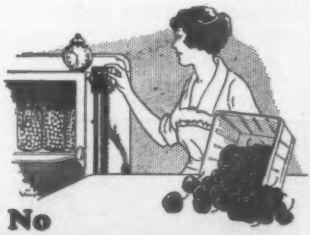
Your gas range dealer will be glad to give you further details for oven-canning.

PACIFIC GAS AND ELECTRIC COMPANY

P·G·and E·

"PACIFIC SERVICE"

215-725



No "Pot-Watching"

THE gas oven-temperature-control does that for you—and assures the modern housewife that her fruit preserving will be successful.

Also, this method of oven-canning eliminates the lifting of heavy kettles, a steaming kitchen, and the guess-work involved in the old fashioned way of "putting up" summer fruit.

Prepare your selected fruit in the usual way and pack in sterilized glass jars. Add boiling water or syrup and adjust the lids loosely. Set your heat control for the proper temperature and leave the jars in the oven for the prescribed time.

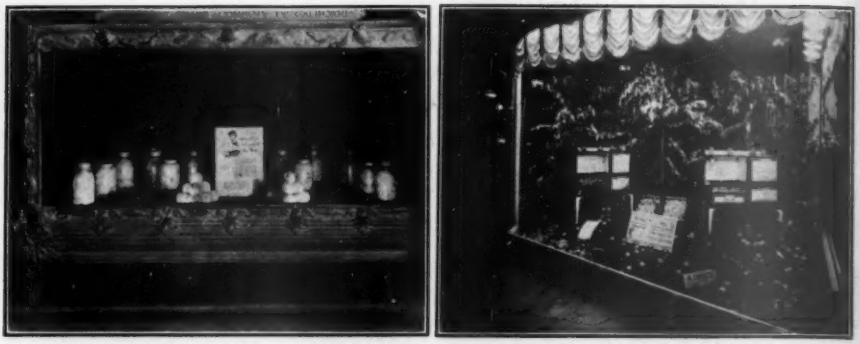
Your gas range dealer will give you complete details for oven-canning.

PACIFIC GAS AND ELECTRIC COMPANY

P·G·and E·

"PACIFIC SERVICE"

215-725



The Windows of Banks as Well as of the Gas Company Illustrate the Catholicity of the Campaign.

the big cities held home-canning demonstrations just prior to the harvest time. Domestic science classes in the schools held special cooking lessons in home canning. Banks devoted their window space to fruit display. The text of the gas company's advertisements were reproduced in enlarged size on cards and distributed and displayed in stores, banks, etc., as a tie-in with the newspaper advertisements. The metropolitan newspapers publishing a domestic science page devoted a considerable amount of their space to home canning. Literature was distributed through the retail grocers, and the California Development Association made contacts with women's clubs throughout the territory.

N. B. The drive was a success.

The Axiom Here Illustrated Evidently Is That a Peach in the Hand Is Worth a Whole Crop in the Orchard. The Gas Company Carries the Argument a Step Farther by Suggesting That a Peach in the Preserve Jar Is a Move in the Direction of Conservation and Will Be Doubly Appreciated When February Rolls Around.

Drip Pumping Since Dobbin Died

Philadelphia Gas Works Drips Efficiently Pumped With Motor Equipment

By WALTON FORSTALL, United Gas Improvement Company, Philadelphia, Pa.

AT the beginning of 1912 the method of drip pumping in use in the Philadelphia Gas Works was probably typical of conditions throughout the United States. Two tank wagons, each drawn by a double team, and carrying two men, were continually employed in caring for the drips on 27 miles of pumping mains. The 1475 miles of distribution mains were cared for by three or four similar tank wagons, each drawn by one horse. Because of previous systematic study given to the condensation from the distribution drips, it was not found necessary to operate each one of these wagons every day.

In the Fall of 1912 an experiment was made with drip pumping by electric motor, using a tank temporarily installed on a two-ton electric truck. This experiment was so successful that a 3½-ton electric truck, equipped with a 600-gallon tank, was put into service in August, 1912.

In 1913 our record was:

	Electric Truck	Horse Wagons	Total
Gallons Pumped ..	608,036	269,520	877,556
Cost per Gallon ..	$.0058	$.0096	$.0070

In 1914 and 1915 the electric truck continued to show its economy over horses, and, therefore, in 1916, an additional motor drip truck was purchased. This was a 5-ton gasoline truck with a 1200 gallon tank. The larger size and the choice of gasoline for motive power resulted from certain weaknesses of the electric truck as applied to our particular problem.

The record in 1917, the first full year of operation of the two motor trucks, was:

	Electric Truck	Gasoline Truck	Total
Gallons Pumped	225,722	683,128	908,850
Cost per Gallon	$.0144	$.0073	$.0091

By 1922 the amount of condensation had increased to such an extent that two motor trucks proved insufficient. In the summer of 1923 an additional 5-ton gaso-

EXHIBIT "A"—DRIP PUMPING BY MOTOR TRUCKS
PHILADELPHIA—1924

Equipment Used: No. 316—3½-ton electric truck—600-gallon tank
No. 429—5-ton gasoline truck—1200-gallon tank
No. 505—5-ton gasoline truck—1200-gallon tank
No. 544—2-ton gasoline truck— 500-gallon tank

No.	Gallons Pumped	Drips Pumped	Days Worked	Miles Traveled	Wagon Hours	Wagon Cost	Drivers' Wages	Helpers' Wages	Total Cost	Cost per Gallon
316—Electric	271,447	6,989	189	4,710	1,789	1,787.54	1,067.41	45.60	2,900.55	.01067
429—Gasoline	287,507	5,383	150	4,165	1,408	1,396.73	860.44	11.00	2,268.17	.00788
505—Gasoline	924,587	11,195	306	7,006	3,047	3,022.46	1,843.36	230.50	5,096.32	.00551
544—Gasoline	74,015	4,118	107	2,818	1,037	771.28	638.60	—	1,409.88	.01904
	1,557,506	27,685	752	18,699	7,281	6,978.01	4,409.81	287.10	11,674.92	.007495

As will be noted from the "Days Worked" column, No. 505 was used practically every working day in the year and was given the large drips to pump.

No. 316 was the second in amount of use.

No. 429 is regarded as a standby, having outlived its period of very active use.

No. 544 was only put in service in July 1924, and was bought to care for the smaller drips, as this work can be done more economically from a small truck than from a large one.

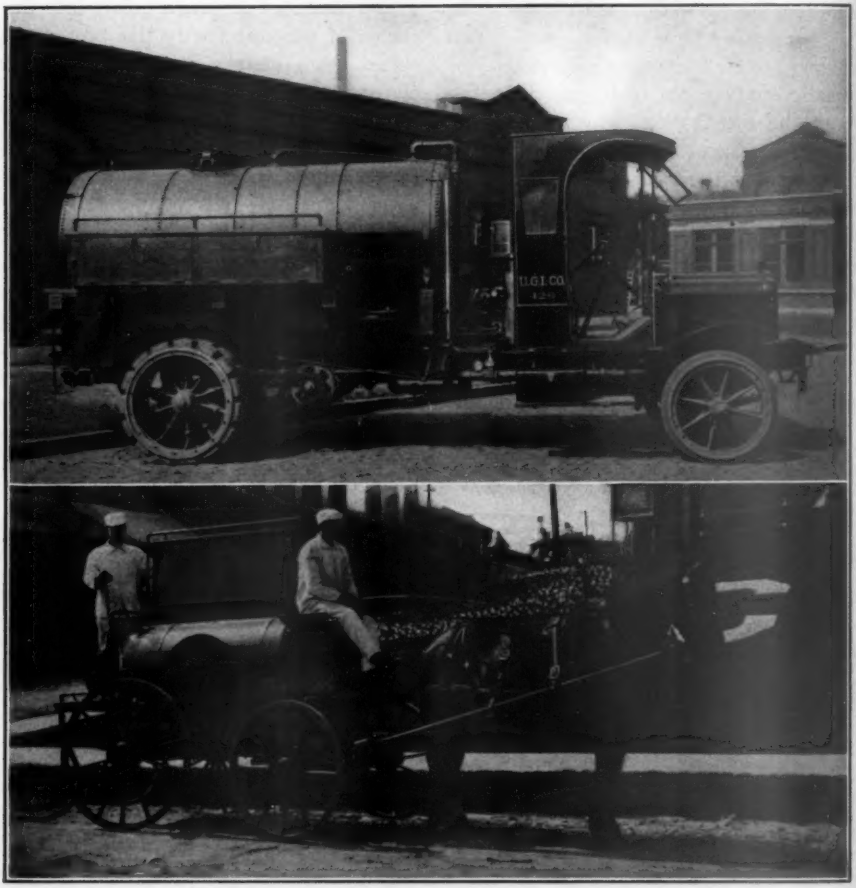
The 1924 record, like previous records, is notable for the small amount spent on helpers' wages. In the twelve years that Philadelphia has been operating motor drip trucks, it has been found that as a rule one man on a truck is all that is needed, and much of the helpers' wages shown is due to the fact that we must have at all times at least six men familiar with the drip routes.

line truck, with a 1200-gallon tank, was put into service. This enabled the electric truck to serve as a reserve truck on occasion.

In 1924 a further increase in condensation, and a conviction that a smaller truck could be used to advantage in caring for drips on small distribution mains, visited at infrequent intervals, caused the purchase of a 2-ton gasoline truck with a 500-gallon tank. A record of the work done by all of the trucks in 1924 is shown on Exhibit "A", on the preceding page.

Much of the success of this method of handling condensation has depended upon the use of a "drip clerk." His job is to see that at all times the drip trucks are routed properly. For this purpose, he has an individual card record of the condensation from each drip. Space is lacking here to describe his work in detail, but it will be found on Pages 342 and 343 of the manual "Gas Distribution."

The cost, as shown in Exhibit "A", includes every item except interest on the equipment and the wages of the drip clerk. This latter item represents about $1200 yearly, as not all of the clerk's time is devoted to drip work.



A Study in Contrasts.

When Home Service Comes to Town

The Family Kitchen Gets a New Lease of Life and the Gas Company Reaps Permanent Benefits

By MRS. C. E. FITCHEN, Standard Gas Equipment Corporation

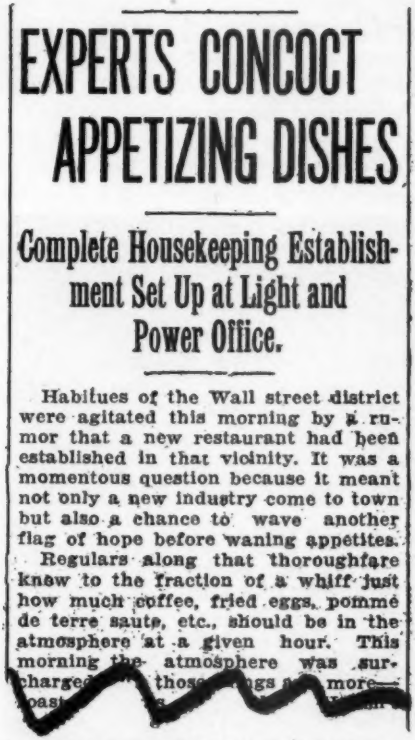
Mrs. Fitchen Demonstrating Some of Her Own Particular "Fancywork."

SEVERAL years ago the slogan "back to the farm" gained widespread publicity. This year the national slogan could well be "back to the kitchen", for cooking demonstrations and domestic science classes, for business girls and housewives, as well as service departments catering to every domestic need, are sweeping the country with a rapidity that argues well for the restoration of home cooking.

Many reasons for the wonderful response on the part of the public to this movement could be given. But chief of these reasons is the fact that living conditions are more and more governed by science; also, that even though women of this age have less time to spend at home and in the kitchen, they realize the value of properly cooked and attractively served food. They also realize that restaurant and hotel life lacks the charm and good influence of a real home.

And this is where science has come to the rescue. With the modern labor-saving appliances available today, women can still spend less time in the kitchen and yet serve meals which are both more appetizing and nutritious. Possibly no one appliance has had more to do with making this possible than the modern gas range. With oven heat control and countless other conveniences and improvements, the gas range is again luring women back into the kitchen.

I should like to mention here what I be-



EXPERTS CONCOCT APPETIZING DISHES

Complete Housekeeping Establishment Set Up at Light and Power Office.

Habitues of the Wall street district were agitated this morning by a rumor that a new restaurant had been established in that vicinity. It was a momentous question because it meant not only a new industry come to town but also a chance to wave another flag of hope before waning appetites.

Regulars along that thoroughfare know to the fraction of a whiff just how much coffee, fried eggs, pommé de terre sauté, etc., should be in the atmosphere at a given hour. This morning the atmosphere was surcharged [illegible] those eggs [illegible] more [illegible]

The Traveling Home Service Lady Gets Almost as Much Attention as the Circus.

lieve to be one of the most influential reasons back of the newly developed interest of many of the gas companies in home service work. I refer to the enthusiastic talk given at the Atlantic City Convention this fall by Miss Ada Bessie Swann. I am sure that this talk was a revelation to most gas men and made them realize how powerful a factor a Home Service Department can become. Their only difficulty was how to go about it, and the manufacturers who are progressive enough to maintain women capable of organizing these departments are more and more called upon to co-operate.

I think the biggest field for this type of co-operation on the part of the manufacturer is with the small gas company. Large gas companies have more adequate organizations and equipment. They also have a larger audience, which gives them more confidence. But the small gas company often hesitates, feeling that they have insufficient facilities and that the size of their community will not justify a Home Service Department. They also feel at a loss just how to go about organizing it.

This is where the manufacturer can be of great assistance. He can act as a sort of Home Service Headquarters, maintaining a definite department devoted to this, as in the case of the Standard Gas Equipment Corporation. Gas companies seriously interested in establishing a home service department are given our full co-operation, from furnishing complete details in the equipment, advertising, etc., necessary, to the actual selection of a woman capable of taking charge. Frequently I am sent personally to open the department. Then again, particularly when the company is a considerable distance from New York City, the woman intending to have charge of the department comes to New York and spends a week or more studying at first hand the methods employed by prominent gas companies.

There are many ways to help, as for example:

The Cohoes Power & Light Company of Cohoes, New York, wanted to establish a Home Economics Department, but were uncertain how to go about it. Mr. Federer, the sales and commercial manager, asked our assistance, and immediately we outlined a plan as conducted by some of the larger companies, and submitted it to him. This was so entirely to his satisfaction that Mr. Federer left it to us to organize the department. The privilege was given to me to do this.

I arrived at Cohoes on November 17, 1924, and spent that day in preparing and planning. The plan included a schedule for opening demonstrations to last four days. It also outlined the equipment needed and instructions for invitations and mimeographed copies of menus and recipes.

The date set was November 18-21, and advertisements were inserted in the Cohoes newspaper announcing the demonstrations. Mr. Federer was not at all sure that the women of Cohoes wanted this. But, after the first demonstration, he was so pleased at the response given (which was greater each day) that he lost no time in establishing a permanent Home Economics Department in charge of Miss Charlott Mott, and the department has continued to be of great commercial value.

Two other companies with which we have recently co-operated are the Hyde Park Gas Company, of Scranton, Pa., and the Connecticut Light and Power Company, at Norwalk, Connecticut. Before establishing the Home Economics Department at Scranton, Mrs. Ellen McCleary, who is in charge of it, spent a week in New York. Together we visited Miss Ada Bessie Swann of the Public Service Electric and Gas Company at Newark, Miss Marjorie Pidgeon of the Brooklyn Borough Gas Company, Miss Sara Field Splint, expert for McCall's Magazine, and other prominent home economics departments.

Mrs. Edith Russell, who is in charge of the work at Norwalk for the Connecticut Light & Power Company, also spent a week in New York visiting the various departments. Then, for the week of April 20-25, we conducted a four-day cooking demonstration at the gas company office in Norwalk. A feature that attracted a great deal of attention was staging in the window a demonstration of cooking a whole meal on top of the range with the vessels grouped around one burner. It might be mentioned here that this always creates a wonderful impression, for it impresses on the audience the full convenience and economy possible with a gas range.

Though I have stressed the importance of the co-operation the manufacturer can give the small gas company, we must not overlook the fact that the Home Service Department can also be of very real benefit to many large companies who have already established unusually successful departments of their own. Sometimes the service is mostly supplementary. But then there is also a big service we can render.

The women in charge of the manufac-

LONG ISLAND LIGHTING COMPANY
HUNTINGTON OFFICE
Next to Bank of Huntington

Huntington, N. Y., April 13, 1925.

Dear Madam:—

We most cordially invite you to visit our office Thursday, or Friday, April 16 or 17, and watch Mrs. Fitchen professionally demonstrate Cooking by Gas on the Smoothtop Range. This lady will also be pleased to discuss any cooking problems with interested housewives. There is positively no obligation involved by coming, and you will surely get much useful information.

Very cordially yours,
EARL W CHAPPLE, Manager.

The Gas Company Takes Full Advantage of Mrs. Fitchen's Visit.

turer's home service work have a broad contact—a contact with the problems of many companies in a large area. This should enable them to act as a helpful clearing house for ideas and much excellent experience, which, in turn, can be passed on. For instance, even when we are not taking an active part in many of the vital and interesting things going on, we often assist and investigate. One week we may watch the organization of a Children's Class, the next we may help organize a Class for Bachelors. Or it may be a radio party, a cooking class graduation exercise, a special class for brides-to-be. This varied first-hand experience gives us unusual insight into home service methods of others.

It is with pleasure that the manufacturer unites with the gas company to organize the Home Service Departments in such a way that the most may be derived from it for the consumer, gas company and manufacturer.

It is necessary, first of all, to have a perfectly equipped model kitchen, with thought given as to the space best suited for the convenience of the instructor. Then thought must be given to the proper advertising, which must be of a distinctive nature, and specifically state what

kind of demonstration is to be conducted.

Most important however, is the selection of the right woman to take charge.

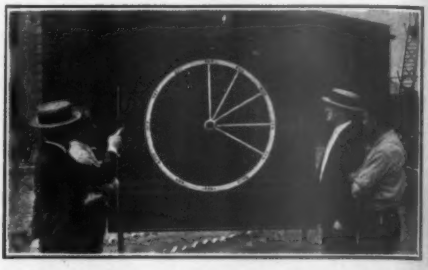
The woman who is successfully to conduct a Home Economics School or class must have certain unusual qualities. Foremost of these is *personality*. This I most firmly believe cannot be acquired to any great extent. One must be *born* with it. And it is the home service worker's most valuable asset—the ability to please without apparent effort and to make her audience feel at ease.

An equally important qualification is *magnetism*—that quality which makes you hold your audience, hold their interest, make them want to come again, make them enjoy coming, without making it evident why. If you do this, those women are going to bring in more returns for the gas company and manufacturers than half your advertising. They will broadcast it among their friends, encouraging them to come, too; and in discussing their range and its co-operation make many a sale with very little effort on the part of the sales force.

Next is *sympathy*. It makes you understand people and their problems. Makes you want to help them, makes it no hardship to go out of your way to help them, and to really enjoy doing so. If a woman can experience all these things, she is going to feel a thrill in her work and enjoy it to such an extent that she cannot help but make a success of her department and feel that the whole audience are her friends. And they surely are, as will be manifested in countless ways.

These qualities must, of course, be coupled with the proper training, so that your lessons are founded on facts that you know to be true. However, I believe that if the smaller gas company cannot afford to pay the salary demanded by the graduate, it is of more value to be sure to get the qualities of personality, magnetism and sympathy.

Safety Wheel Is Record of Accident Prevention



"Safety Wheel" of Baltimore's Gas and Electric Company. Each Spoke Represents a Month of Three or Less Major or Lost-Time Accidents.

WITH two safety committees actively engaged twenty-four hours a day, the Spring Gardens Gas Manufacturing and Holder Station of the Consolidated Gas Electric Light and Power Company of Baltimore has established a highly commendable record in accident prevention work. Safety work is not an innovation with gas makers, since John H. Wolfe appointed a committee in March, 1924, to improve unsafe plant conditions.

The men may well point with pride to their 1925 Safety Wheel, which, at the time the picture was made, had five spokes and three stars. As explained on the board, each spoke represents a month in which there were three or less major or lost time accidents. A star is the emblem of a month during which fifteen or less minor accidents occurred.

An instance of the great interest being shown in the prevention of accidents at Spring Gardens took place the past June. By the twentieth of the month three lost time accidents placed the plant in a position that threatened to cause a loss of the June spoke. The superintendent, at the request of the committees, called a meeting of the entire plant personnel. The men were informed of the situation and Mr. Wolfe requested their co-operation and assistance in the work. The result was that no more major accidents were experienced and the spoke was captured.

In bringing to our own people a realization of their community of interest, we may be accomplishing more for ourselves and for the public even than in our efforts to inform the public.—P. H. GADSDEN.

Down By the Waterfall

The Gas Range Frees the Housewife from Cooking Drudgery. This Company Even Supplies Her Recreation

By J. LYMAN GOLLEGLEY, Utica Gas & Electric Company

Entrance to Prospect Park.

Kuyrahoora Falls.

Beach on West Canada Creek.

WE all know that the gas company sells gas to burn in temperature-controlled gas ranges while "Missus" is out giving the baby or the bull pup, as the case may be, his airing in the park. But here is a gas company, the Utica Gas and Electric Company, of Utica, N. Y., which also supplies the park.

One might hazard the guess that, on warm summer evenings, the inducements of park life might serve to cut down revenue in the kitchen at home; but the scores of letters which the company received after the annual closing of the park this year was a vociferous tribute to its sense of community obligation.

The pictures which are here reproduced show graphically why 75,000 Uticans made it their pleasure ground during the past summer. This was approximately 15,000 in excess of the total number who took advantage of the beautiful grounds the year previous.

Prospect Park is a delightful and picturesque spot about 14 miles from Utica on the highway leading into the Adirondack mountains. It consists of twenty acres located in a bend of the West Canada Creek at the point where Kuyrahoora Falls intercepts the peaceful waters. One section of the park is so located with respect to the stream that there is available delightful bathing. Across the park

from this location a gorge 75 feet deep cuts through shale rock.

Within these boundaries twenty camp sites have been laid out. Beautiful rustic fire places are located in each camping ground. These vary in size according to the dimensions of the plot and the number of people that can be accommodated. Tables and benches also in rustic style have been constructed and placed in each camp site. Each day fire wood is piled high alongside the fireplaces.

The general public, not alone from Utica and its environs, but from various sections of the state and from distant states, appreciate and take pleasure in visiting the park. From early morning until 10 p.m., when the gates of the park close, the camp sites are generally occupied. Sometimes the group may consist of two persons or a small family. At other times parties of a score or more or entire organizations with membership running into the hundreds come to the park and cook their meals in the open over the fireplaces.

It is a beautiful sight, particularly in the evening, to stand at a point of vantage and watch a score of camp fires sending their crackling flame and curls of smoke skyward. The sound of children and adult voices break the air, and the only evidence of our modern life is the beam of light from automobiles illuminating the camp sites.

Prospect Park has been opened for the use of the public four years, and during that time it has gained in popularity to such an extent that its size has been increased to accommodate larger numbers. The Utica Gas & Electric Company has received hundreds of voluntary comments of appreciation and good will from various sections of the country. There is no charge whatever for the facilities of the park. Sufficient wood is supplied to care for the needs of the visitors. Fresh spring water is supplied on the grounds. Refuse containers are placed in each camp site. Signs in various sections of the park and also at the entrance extend a most cordial welcome to the visitors. Only two requests are made. These are that the grounds be maintained in a tidy condition, and that all visitors leave the park at 10:00 p.m. These requests have been religiously observed. Parties who visit the park so much appreciate what the Utica Gas & Electric Company is doing for them that they are very scrupulous in the observance of these rules.

During the past year there have been at certain times as many as three hundred automobiles parked within the grounds. Frequently license plates from as many as twenty different states have been reported. In all, during the season, cars from forty states have been listed as visitors.

On any day of the week except Sundays, Saturdays and holidays, camp sites may be reserved in advance. Then reservation cards are placed upon them and "transients" must seek other sites. On the days when reservations are not allowed, the policy is "first come, first served."

CARL D. JACKSON STATES IT BRIEFLY

FORMER COMMISSIONER CARL D. JACKSON, speaking before the students of Indiana University, recently gave the following nine economic laws on which public utility regulation is founded:

First, That adequate service is dependent upon adequate compensation for the service rendered, and that reasonable return and profit to investors in utility property are the only means of securing investment in that property necessary to render adequate service;

Second, That a utility has no right to exact unreasonable rates for the service rendered;

Third, That future reasonable rates cannot be determined or fixed by franchise contract;

Fourth, That every unreasonable burden upon utility service is a burden upon the consuming public;

Fifth, That the charges for service must provide for proper maintenance of the plant in good operating condition;

Sixth, That unnecessary duplication of facilities is to be avoided and that competitive service can only be secured at unnecessarily high rates and costs;

Seventh, That the utility property devoted to a public use is still private property, surrounded by the guarantees of federal and state constitutions;

Eighth, That regulation is not management, but management is a function of ownership; and

Ninth, That all interested parties are entitled to a court review of any regulatory order.

Affiliated Association Activities

Oklahoma Utilities Association

R. C. Sharp

THE youngest member of the family of gas associations is the Oklahoma Utilities Association—youngest, that is, with respect to its affiliation with the American Gas Association, ratified September 16, 1925.

This association has, however, been long serving the five public utilities of Oklahoma and its activities have been many and varied. For instance, it put on a free moving picture show and exhibit at the Oklahoma State Fair, September 26 to October 6, which proved to be one of the most popular displays in connection with the fair.

The exhibit booth had a seating capacity of about 50 and was filled much of the time with persons from all over the state watching the moving pictures, which illustrated the spirit of service of public utility companies.

Free literature describing briefly and graphically the growth of public utilities in Oklahoma within the past 25 years was distributed to visitors. This literature contained miniature maps showing locations of electric transmission and gas transportation lines throughout the state. This is the third year that this exhibit has been made by the Association and it seems to grow in popularity each year.

The officers of the Oklahoma Utilities Association are: president, R. C. Sharp of Tulsa; first vice-president, H. B. Cobban of Miami; second vice-president, F. B. Hathaway of Oklahoma City; manager, E. F. McKay of Oklahoma City; treasurer, W. R. Emerson of Oklahoma City.

Iowa District Gas Association

The fifth annual gas metermen's short course, or the "overall conference" of Iowa District gas men, will be held at Iowa State College at Ames, December 8 to 11, 1925.

This short course annually draws students from more than a dozen states in the middle west. Men who attend are given four days of intensive instruction on the care, structure and maintenance of gas meters. It is known as the "overall conference," because all students, both executives and shopmen, must come prepared to work in the college shops and receive practical experience in caring for gas meters.

The Iowa District Gas Association, cooperating with the faculty of the Engineering Extension Department of the State College in staging the course, anticipates a record-breaking attendance this year. Last year one hundred and seventy-five enrolled, representing gas companies from over a dozen states. It is hoped this year to eclipse that mark.

The program includes the following papers: "House Governors" by A. M. Boyd; "Gas Department Records" by O. M. Hoxie; "Public Relations" by Joe Carmichael; "Making a Pressure Survey" by M. I. Mix; "Final Testing and Adjusting of Non-Case Meters" by Mr. Werthman; and "Care, Handling and Installing Meters" by R. L. Klar. Lectures will also be given by Prof. D. C. Faber, C. R. Stahl, G. A. Lane, Wm. Rosenia and E. J. Werthman.

Empire State Gas and Electric Association

E. C. Scobell

The twenty-first annual meeting of the Empire State Gas and Electric Association was held at the Lake Placid Club, October 1 and 2. The total attendance including ladies was slightly over 300, which is considerably larger than on any previous occasion.

President M. S. Sloan opened the meeting Thursday morning with an address reviewing the past year of the utility business, particularly as concerned New York State companies, mentioning especially a better understanding of utility matter on the part of the public. The chairmen of the Gas Section, Commercial Section and Electric Sections submitted separate reports reviewing the work of their various sections and plans for the coming year.

The first address at the Thursday session was by George T. Bishop, chairman of the board of the United Gas and Electric Company, who spoke on "The Importance of Holding Companies in the Financing and Supervision of Utility Companies." Unfortunately the Honorable Sullivan W. Jones, state architect, was prevented by illness from being present personally to deliver his address on the work of the Regional Housing and Planning Commission. His paper was read by F. W. Fisher of the Rochester Gas and Electric Corporation. Considerable interest was manifest in the work and findings of this commission.

At the Friday morning session Miss Mary Dillon, chairman of the Women's Section, presented a report of activities. Reports were also submitted by the special Committee on Educational Activities, the Committee on Ad-

vertising, and the New York State Committee on Public Utility Information. The first address at this session was by Thomas H. Moore, who spoke on "Newspaper Advertising." The other speaker was Ellery S. James of Brown Brothers and Company, who spoke on the "Public Utility Security Market."

The following officers and members of the Executive Committee were elected: President, Ernest C. Scobell, Rochester; first vice-president, Henry M. Brundage, New York, N. Y.; second vice-president, Henry O. Palmer, Geneva, N. Y.; treasurer, William J. Welsh, Stapleton, S. I.; secretary, C. H. B. Chapin, New York, N. Y.; executive committee—Class of 1928, James C. DeLong, Syracuse; Henry E. McGowan, Brooklyn; Eugene H. Rosenquest, New York City, and M. S. Sloan, Brooklyn.

Pacific Coast Gas Association

The Pacific Coast Gas Association will continue this year with its general plan of holding three meetings in addition to its convention. The mid-year meetings have become a pleasant and necessary feature of the association's activities, as they enable nearly every association member to attend at least one gathering during the year. This year each of the mid-year meetings will extend over two days to give opportunity for committee conferences.

The first meeting will take place in San Francisco on November 19 and 20. The first day will be devoted to a series of conferences of committees and sub-committees, each in charge of its chairman. The program for the second day includes both a morning and afternoon session for all association members and guests at which a series of papers and reports will be read and discussed. These sessions will take place in the auditorium of the new Market Street building of the Pacific Gas and Electric Company. In the evening an informal dinner will be served at the Commercial Club followed by a program of entertainment. Most of the members will stay over the next day in order to attend the annual "Big Game" between Stanford and California Universities.

Wisconsin Utilities Association

The program of the Annual Convention of the Commercial Section of the Wisconsin Utilities Association to be held at the Hotel Loraine, Madison, Wisconsin, on November 12 and 13, was not complete at the time this issue went to press, but Chairman W. R. Lacey was able to announce some of the subjects and speakers.

R. S. Ritchey, vice-president and sales manager of the United Film Ad Service, will address the convention on "The Use of Motion Pictures in Public Utility Advertising." An illustrated lecture by Albert A. Schuetz will set forth "Some Industrial Applications of Gas." It is planned to devote one afternoon of the two-day convention to the subject of industrial gas. Parallel to this session the women will devote the afternoon to a Conference of Directors of Home Service Departments. Mrs. Katherine Delaney, director of that department for the Wisconsin Public Service Corporation, will be the leader of the conference. Robert E. Steele, chairman of the Industrial Lighting Committee, will give a report for that committee which will cover the co-operative work of the state association and the Great Lakes Division, N.E.L.A. Papers or discussions will also be arranged on House Heating by Gas, the Red Seal Plan, and Domestic Appliance Sales.

Indiana Gas Association

H. J. Roach

Unusually lively discussion of important papers marked the seventeenth annual meeting of the Indiana Gas Association, held at West Baden Springs, September 21 and 22. A well-balanced program, covering problems of production, distribution, sales and administration, drew a strong representation of gas company executives from each of these departments.

While all of the addresses and discussion was highly interesting and valuable, enthusiasm and commendation was developed from two outstanding papers of particularly constructive nature. One of these, "Central Station Gas Production and Long Distance Gas Transmission", dealt in very specific terms, accompanied by convincing statistics, with the economy in production costs, investment costs, and transmission charges resulting from centralized production and high presure distribution.

The ever-present interest in industrial business was met with an able group paper, compiled by the Industrial Gas Sales Department of the Northern Indiana Gas and Electric Company, entitled "Gas—The Super Fuel for Industrial Purposes". The various elements of industrial utilization and industrial gas sales were analyzed. A notable section explained clearly the method of making an industrial gas market survey.

The varied recreational facilities, especially the excellent golf course, kept visiting delegates actively occupied outside of meeting hours.

The following officers were elected for the ensuing year: president: H. J. Roach, Northern Indiana Gas & Electric Co., Crawfordsville; vice-president: E. Van Arsdel, Interstate Public Service Co., Indianapolis; and secretary-treasurer, Edward J. Burke, Burke & Blyler, Chicago.

Ringing Up the Curtain on the Future

Closing Address of the Seventh Annual Convention of the A. G. A.

By GEO. B. CORTELYOU, Consolidated Gas Company of New York

MR. President, fellow-members of the Association, ladies and gentlemen:

I am always greatly honored in being asked to speak at this point in your program, and especially so this year as this splendid convention and exhibition draws to a close.

Many of the speakers have referred to the "high spots" in the work of the Association and in what has been said and done in the convention. I have seen certain of the "high spots", and with no reflection upon the work of any of the sections, departments or divisions, or that of the officers or their associates, one particularly "high spot", I think, was the prominence you justly gave this year to the work of the Public Utility Information Bureaus, which received its initial impetus from Samuel Insull and has had such encouragement and support from his able lieutenant, Mr. Mullaney. It is a fine thing to have emphasized what these bureaus are doing, and what has been said in the conferences here shows us not only what has been accomplished but the great possibilities of the future for the industry. That is one "high spot."

Now, another has been the large attendance of the executives of the companies. More and more as they come here they will realize what is being accomplished and they will also realize how much their presence adds to the inspiration and interest of their employes who come here.

Still another has been the attendance of so many of our friends from the Pacific Coast and from our splendid neighbor to the north of us, Canada.

I might name others of equal importance, but possibly the finest exhibition of the spirit of the Association was shown when those men came up on this platform to receive the medals which were a recognition of meritorious and heroic service. As old Tim trudged forward to receive his medal I had a suspicion that he regarded the ordeal as a greater one than when he rescued his comrades. As he came back down the aisle the tears that glistened in his fine old eyes were a greater decoration than the medal that was pinned upon his breast. For it emphasized the fact that sentiment prevails in this Association. No institution can live and prosper unless sentiment and imagination run like a thread of pure gold through the fabric of its organization.

You may remember the story that Clarence Budington Kelland tells in one of the recent magazines, of visiting a saw-mill man with whom he sat on a pile of logs one night while every dollar the mill man owned was going up in smoke and flame before their eyes.

This man was not watching the fire or wringing his hands. In his quietness there was no despair. Now and then, looking into the distance, he would nod his head or shake it.

"I'm imagining how the new mill will look," he said.

Sentiment and imagination in this Association have accounted for much of the progress that it has made.

You received a message from the President of the United States—a fine message as his messages always are. One of our company publications recently carried a similar message when it stated that centuries ago a very wise teacher summed up the wisdom of ages in these few words: "He who would have must give."

Now, Mr. President, your request was couched in these terms—that I say the last word at this convention. You impose upon me an impossible task, in a way, for no man can say the last word for this convention. We are ringing the curtain up, not down; and as it rises we see revealed the outlines of a picture representing the work that you and your associates of the present and of the past have done and what has been accomplished in this fine meeting here. As we look the picture grows sharper in outline, and as the years go by it will grow still clearer to our view. Through your discussions here has run the theme—the future of the gas industry. But as we look at that picture, as we draw inspiration from these meetings and from all that has been done by the members and officers and directors of this Association during its brief but eventful life, we add one word, a fitting last word, if you must have one. It is a word that I would embody in the title beneath that picture. Let us by our initiative, our energy, our enthusiasm, our devotion, make that title read, in letters of living light—the GREAT future of the gas industry.

Park Your Car P. G. and E. Invites

SERVICE rendered by the Pacific Gas and Electric Company of San Francisco now consists of parking the cars of its patrons and employees in the basement of its office building, shown below in new habiliments of light.

The parking facilities are so arranged that fifteen or twenty machines can be accommodated below the street. A driveway extends from the street via an incline to the basement. An automobile entering the incline causes an automatic electric horn to blow at the bottom, indicating that a machine is now approaching. This same action occurs when a machine is coming up the incline, the horn providing a warning to the people on the sidewalk and on the street.

Pacific Gas and Electric Company's New Building Under Floodlight Is the Beacon of San Francisco's Business District.

The parking space is about 100 feet square. At the bottom of the incline is a round table on which cars are turned, thus avoiding maneuvering in the basement. Obviously this parking arrangement is a great convenience, particularly in the section of the city where the P.G. and E. is situated, where parking facilities are limited and traffic is extraordinary.

The new lighting arrangements, we are reliably informed, make the beautiful seventeen-story general office building stand out "like a jewel in San Francisco's path of gold." At the base of the colonnades on the fourteenth floor and also on the sixteenth floor, sixty-three powerful flood-lighting projectors are installed. Sixty more are located across the street.

It has been estimated that this special lighting feature and the general illumination of the building adds approximately one quarter million candle power in light to the far-famed Path of Gold. The effect of the white light, which is designed to harmonize with the color of the building, is so regulated that a soft moonlight effect is obtained.

A Suggested Voucher System for Utilities

An Aid to Ready Reference

By L. H. BOUTELL, Chairman, Accounting Section, Wisconsin Utilities Association

THE purpose of a voucher system is to record payments made, and file evidence of such payments in such a way that ready reference can be had at all times for cost purposes and to substantiate charges to fixed capital and other accounts.

A system is suggested herewith which we believe will serve this purpose.

Books required — Accounts payable register, check register, and voucher form.

The voucher form may be either a combination voucher-check or separate voucher and check. We prefer the voucher and check form, because it provides for a wider distribution of accounts, which is usually necessary with combination utilities having more than one set of accounts. The voucher and check form is usually about 8½" square and when folded ready for filing makes a form 4¼" x 8½". The inside portion provides for the name of the payee, date of order, register number, a brief description of the invoice to be paid, the check number, and at the bottom of the form is a receipt to be signed by the payee. The back of the voucher provides for the voucher number and account number to which the materials purchased are to be charged with the amount set opposite each account number. The typewriter can be used to advantage in making out vouchers. Invoices should be filed in the office and attached to the vouchers when they are returned. The filing clerk should be instructed to see that all returned vouchers are receipted by payee before filing. Vouchers returned should be checked off in the accounts payable register and those not returned followed up systematically by correspondence until returned.

The accounts payable register should provide the following information: date of voucher, register number, voucher number, name of payee, and amount of voucher. The voucher number and date paid is entered when the voucher is returned, and provides an easy way of checking up vouchers not returned.

The check register should provide the following information: date paid, voucher number, name of payee, amount of voucher and necessary columns to provide a daily bank balance in each bank with which the company does business.

Posting is done direct from the back of the voucher and reconciled with amounts posted in accounts payable register.

The growing interest of investors in gas company securities imposes on us a serious obligation to prepare the most accurate and complete statistics possible.

Rochester Gas Company Exhibits the Unseen

THE obvious frequently turns out to be the best. After spending several months trying to decide what to exhibit at the Rochester Industrial Exposition this year, the Exposition Committee of the Rochester Gas and Electric Corporation finally decided it could do nothing better than to lift the lid of its distribution system and let the public see for the first time the network of services that lay beneath.

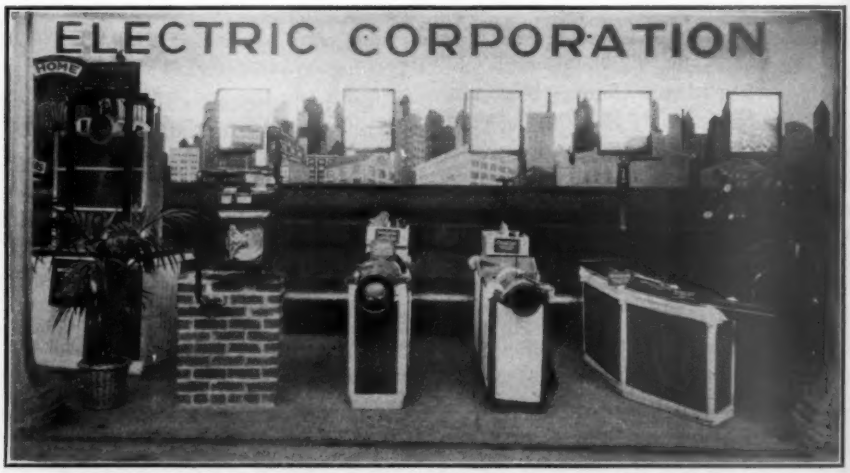
These underground lines are hidden away so well and function so efficiently that the public hardly realizes that they exist. Hundreds of miles of wire and cables, conduits, ducts, etc., as well as the gas and steam mains, are in successful operation in Rochester, and yet the public seldom gets a glimpse of them.

The company's service and products are so easily obtained that customers have no occasion to "worry" about the whys and the wherefores of distribution or any of the other problems entering into company operation.

With this thought in mind the 1925 exhibit was planned and developed. At one end of the exhibit a complete gas manhole was shown in which a pressure regulator in operation demonstrated how an equality of gas pressure is maintained in all parts of the gas distribution system irrespective of the distance from the source of supply. This brought out the fact that all gas customers receive the same good service.

Typical Gas Manhole, Right, Containing Gas Pressure Regulation in Actual Operation. At Left, Some Modern Tools Used by Gas Department and a Gas Mask Outfit to Safeguard Employes.

A house service tapped from the pressure line and complete with a meter installation showed how eventually the gas reaches the home and is accurately metered as consumed. The gas exhibit also featured the construction problems involved in the laying of mains and showed the tools and equipment used in welding, tapping, stopping and many other operations required in bringing the gas service to the home or place of business of the ultimate consumer.



Section of Gas Exhibit, Detailing Method of Gas Distribution and the Tapping, Stopping and Welding of Mains. Gas Mains and Electric Conduit Are to Be Seen in the Background. Note the Bigelow-Hornsby Steam Boiler at Extreme Left.

What Shall We Advertise—And Why?

Plans of the Publicity and Advertising Section for the Coming Year

By FRANK LeROY BLANCHARD, Chairman, Publicity and Advertising Section

F. L. Blanchard

THE object of all advertising is to furnish information in such form that it will produce action favorable to the advertiser. Advertising has been defined as "making known" what you have to sell. That it is extensively employed for this purpose is attested by the fact that last year, according to a careful estimate made by experts, over a billion dollars were invested in the various mediums.

The leaders of the gas industry realize today as never before the important part advertising is playing in its development and assert that its future expansion depends largely upon the intelligent use made of it.

It is the province of the Publicity and Advertising Section of the American Gas Association not only to promote the interests of the industry as a whole, but also the interests of its individual members. In doing this we keep close watch upon the advertising activities of gas companies throughout the country. We must, in addition, keep tabs upon the advertising of the electric light and power companies and other public utilities. If we are less progressive than our neighbors in getting our business messages before the public we ought to know it and take measures to improve the situation.

A survey of the past year's record shows that during no similar period in the Association's history has greater progress been made in spreading abroad information concerning the many advantages of gas as a fuel for heating homes, factories and public buildings, and its adaptation to many industrial purposes and especially to the manipulation of ores and metals. According to an estimate prepared by our headquarters staff, out of a possible 1,000 gas companies in the United States over 700 employ advertising in marketing service and appliances. Five years ago not more than 350 companies advertised. It is, therefore, not unreasonable to believe that within another decade all gas companies, with the exception of those that are atrophied, will look upon advertising as indispensable to their business success.

Early in the year, the Managing Committee appointed a Special Committee of five to advise in the editorial production of the American Gas Association MONTHLY. About the first thing the Committee did was to suggest the appointment of Mr. Henry Obermeyer, assistant secretary of the Publicity and Advertising Section, as editor, which received the approval and compliance of the secretary-manager. Under his direction the magazine has been greatly improved both in typographical appearance and in its table of contents. There is more variety in the articles presented; the number of contributions has materially increased and the circulation has shown gratifying gains, the October issue having a distribution of 4500 copies.

One of the most important services the Section renders is furnishing news to the trade press and the state public utility information bureaus. More than a hundred

publications interested in the gas industry receive the news bulletins. Copies are also mailed to investment brokers, banks and financial institutions. The state information committees have been of special value in securing publicity. During the year ending May 1, 1925, 199 articles were sent to the 28 bureaus. Of these, 712 reproductions appeared in the news sheets issued by them.

Because of the improvement in the character and volume of the material furnished by the Section for publication, the amount of favorable publicity printed has been much greater than in any other year, and the contacts that have been established through it will prove increasingly helpful in the future. Our relations with the press associations have been cordial and their coöperation has been duly appreciated. The hostility that once characterized their attitude toward all public utility companies has largely disappeared as the result of a better understanding of them brought about through frank and intelligent publicity.

Folders, pamphlets and booklets prepared and published by the Section have been ordered in large quantities by company members. Two of our earlier publications have enjoyed a sale of over a million copies. During the last year over 700,000 pamphlets on various topics relating to the gas industry were sold. The demand for the folder, "Gas in the Service of Man", was so great that 260,000 copies were ordered during the first three weeks following the date of issue.

The advertising service, now in its fourth year, shows a steady growth and has been an important factor in improving the general character of gas company advertising. Moreover, it has stimulated the use of paid space both in appliance and good will publicity. It is interesting to note in this connection that of the thirteen advertisements sent out each month, five are designed to promote public good will. This fact indicates the high degree of importance accorded this type of publicity by the industry. The popularity of the advertising service is shown by the number of subscribing companies, of which there are 225 and to whom during the year 156 display advertisements were sent, 108 of which were illustrated.

An illustrated lecture on the gas industry has proved a popular feature in our educational work. In its travels about the country it has crossed the continent several times and has always produced a favorable impression wherever shown.

The Section has been of assistance in furnishing lecture material to state committees, general managers, teachers and professional speakers. That motion pictures can be profitably employed in educating the public to a better understanding of the gas industry has been demonstrated to the satisfaction of our Association.

The popularity of gas company securities has brought the section in contact with many financial institutions and investment brokers. Whenever a company or firm undertakes the preparation of a pamphlet on the gas industry it usually seeks from us information on the subject. The amount of material furnished during the year is considerable, and although the service takes much time, the committee believes it is worth while.

The Publicity and Advertising Section has actively cooperated with the Public Utilities Advertising Association in carrying on its work and in increasing its membership. While it is the youngest of the associations devoted to public utilities it has already performed a highly important service in bringing together in one organization the men and women of all the public utility industries who are engaged in promoting a better understanding of them and of the services they are rendering their several communities.

In the opinion of many members of the Managing Committee, the time has come when the Association itself should undertake a vigorous and aggressive advertising campaign in behalf of the gas industry as a whole. Several of the more important industrial and trade associations

have inaugurated similar campaigns which have worked out satisfactorily. You are all familiar, no doubt, with the work that is being done in this direction by the National Electric Light Association and the Society for Electrical Development.

When we consider that there are 38 periodicals with a total circulation of 70,000 copies in the United States devoted to electricity; that there are 22 devoted to the coal industry, five of which have a circulation of 40,000; and that there are 27 devoted to oil, five of which have a circulation of 43,000, we cannot but feel that the gas industry with only six periodicals is inadequately represented in the periodical field from a strictly publicity viewpoint. We need a wider and more aggressive distribution of information upon the industry than now obtains and the most direct and efficient means for accomplishing this result is through advertising. Unless the American Gas Association is content to take a back seat in the car of progress, it must avail itself of every legitimate means to give the industry the standing it deserves among the foremost of American business enterprises.

If the Association authorizes an advertising campaign, many questions must be answered before the work of preparing copy can be undertaken. Some of them are the following:

What results do we hope to achieve? Should the campaign be designed to educate the public as to the various services gas renders? Should much space be given to the cultivation of good will? Would it be advisable to print a series of advertisements on the advantages of gas company securities as an investment?

Should the copy be given a local twist in order to induce local sales of appliances?

There are so many subjects that might be profitably discussed that the trouble will be to select those that have the widest appeal. If the campaign is to be carried on for three years, and it should not be undertaken for a shorter period, the first year's advertising might be devoted to the promotion of the use of gas for heating homes and business buildings; the second to the advantages of gas in manufacturing and other industries, and the third year to the exploitation of appliances that lighten the burdens of the housewife. Perhaps other subjects might be selected that would be considered more timely or important.

Our problem in brief, then, is to awaken a greater public interest in gas as a servant of mankind. We want people to know of the innumerable ways in which it can contribute to their comfort and happiness. We certainly ought to be able to prove to the satisfaction of everybody with an open mind that gas from every viewpoint is the best fuel available. If the campaign accomplishes this one purpose it will perform a monumental service for the industry and establish it in an impregnable position among public utilities.

Another Declaration of Independence

THE SPIRIT OF '25

From the Providence (R. I.) Journal

"Loyal Servants of the People"

An Editorial Tribute to the Influence of Employee Contacts with the Public

F. A. Stratton

THE following editorial is reproduced for what is is worth, and, personally, we think it is worth at least ten minutes of careful reading on the part of those whose opinion of this particular type of advertising is either on the positive or negative side. We are sorry that lack of space prevents us from setting up the full page ad here referred to. However, it is graphically described in the editorial which was entitled:

"LOYAL SERVANTS OF THE PEOPLE"

The advertising columns of THE REPORTER of yesterday contained an unusual advertisement. It was as interesting as it was unusual. It was human in every line. It was not an attempt to sell any particular brand of goods, or any special article at a bargain price, to the community.

The Westchester Lighting Company's advertisement entitled "Loyal Servants of the People of Westchester County" was the most human definition of a public service corporation that we have ever seen in print. Without setting forth the advantages of using gas and electricity, without stating that the Westchester Lighting Company's product is the best of its kind to be secured, that the people should use it, the advertisement placed squarely before the people of this county the fact that a public service corporation is nothing more, nothing less, than a group of individuals banded together for the purpose of serving the communities.

The word corporation has been much abused. It has been the favorite target for those who seek to beguile the people into thinking that a public service corporation's one and only excuse for existence is the mulcting of the public out of all the money that is available. Corporations are, if one is to believe their critics, soulless, heartless, lacking conscience, thinking only in terms of monopoly. There has been an effort, over a long period of years, to bring the public to a state of mind antagonistic to corporations of all kinds, particularly those serving the public.

The Westchester Lighting Company has been criticised. That, in itself, is not out of place. We have not agreed with it on all occasions. But no one should criticize the Westchester Lighting Company merely for the purpose of self-aggrandizement, or merely because it is a corporation. It furnishes the people of Westchester County with gas and electricity. These are indispensable in modern life. In providing these the Westchester Lighting Company is serving the public.

Now, this editorial is not a brief for the Westchester Lighting Company. It is a comment on an advertisement, an expression of the feeling that the reading over of that advertisement gave us. Seldom do we find advertisers using white space for any purpose other than to sell some particular article, whether that be merchandise, real estate or service. Which is perfectly legitimate and proper, indicating that the user of such space has knowledge of the fact that to acquaint the people with himself and with his company he must advertise.

The Westchester Lighting Company's advertisement was different. It contained principally a list of names, names of the Westchester Lighting Company's great force of employes, from the president down to the last worker in the ranks. It was an imposing list, one that must have impressed every resident of this city. All of us think of the Westchester Lighting Company too often in the impersonal terms of a corporation. The advertisement should have made most of us think of the Westchester Lighting Company in human terms.

There must have been two thousand names on the lists included in the advertisement. We did not take the time to count them, although we found much to interest us in reading through them, picking out friends and neigh-

bors among them. Hardly a reader of this newspaper but who could find in the lists someone he includes among his friends and acquaintances.

There wasn't any attempt at advertising the product of the Westchester Lighting Company, nor any propaganda on behalf of the company. The president, Francis A. Stratton, wrote a brief letter, to be included in the advertisement, in which he defines the company of which he is the head in the following terms:

Following is a list of the employes of the Westchester Lighting Company, the Northern Westchester Lighting Company and the Peekskill Lighting and Railroad Company.

These are the kind of people who constitute the great mass of American citizens, who do things and accomplish results.

They are good, hard-working, home-loving, loyal American citizens; loyal to their government; loyal to their company; loyal to the community in which they live.

They are members of various clubs, civic and church organizations, political parties and are interested in the affairs of government.

They are your neighbors; they spend their money in Westchester County.

The Officers of the Company are proud of them.

These are the people who are responsible for the good and continuous service you receive, and are ready, at all times, to come at your call, day and night, through fair weather and stormy.

They are the company, and should receive due credit.

When you speak of the Lighting Company, you are talking of these employes, your friends and neighbors.

The Westchester Lighting Company—and in other sections of the county the Northern Westchester Lighting Company and the Peekskill Lighting and Railroad Company—is a big organization. Its two thousand employes, the members of their families and those dependent upon them for all or partial support, would make a good sized city. We can recall when White Plains was not as large, and not so many years ago.

If there are two thousand in the list, and a cursory glance will reveal that there must be nearly that many, and if the average wage were but $10 a week, the total paid in wages to them would be over a million dollars a year. The average wage must be at least $40, perhaps nearer $50, taking everyone into consideration. The Westchester Lighting Company, and its associated companies, must have a payroll of from four to five million dollars a year.

This money is spent, probably the greater part, in the establishments of Westchester County. It is deposited, probably practically all of it, in Westchester County banks. Names of Westchester Lighting Company employes will be found in the memberships of churches, in the rosters of clubs and organizations of all kinds, on subscription lists of charitable efforts, on the honor roll of the nation at war, in the fighting forces and at home, on the voting lists, for they are the sturdy type of American citizen, interested in his job, in his home, in his community, in his government, that regards the duty of voting as the highest privilege of citizenship.

The Westchester Lighting Company is, indeed, more than just a corporation. It is a public service organization, providing the people with commodities that they cannot do without. It is able to do this through the loyal service of the people whose names were on the list of employes published in the company's advertisement. Its two thousand employes are a vital force in Westchester County's life, apart from the duties they perform during their hours of employment. Its four or five million dollar payroll has much to do with spreading prosperity through Westchester.

In short, these employes are, as Mr. Stratton points out, the company.

Without them, or people just like them, with the same loyalty to community, to job and to self, the Westchester Lighting Company could not exist.

They are more than just the company. They are the soul and heart of the company. Let us try to think of them when we think of the Westchester Lighting Company.

Imagine a man keeping his money in a national bank, drawing no interest, or perhaps 3 or 4 per cent, under the mistaken idea that he was entirely safe, when he might have had his money in a gas bond earning 5 or 6 or 7 per cent; and yet the historical statistics prove that those gas bonds are safer than the national bank deposits.—HENRY L. DOHERTY.

When Publicity Defeats Advertising

FEW industries advertise so liberally or depend so greatly on advertising for success as the automotive industry. Few industries, on the other hand, send out quite such a volume of so-called publicity for the consumption of newspapers. Today, one of the biggest obstacles to the success of automobile advertising is this never-ending flood of poorly conceived publicity.

Writing in a recent issue of *Automotive Industries*, the automobile editor of a California newspaper describes some of the publicity that is sent him for his use. This ranges all the way from accounts of baseball games played by factory employes at the main plant of a Middle Western automobile company to fulsome praises of a new model sent out as statements by the president of the company. "I don't believe any automobile manufacturer, no matter how egotistical he is, would get up in public and make such extravagant claims for his car," adds the writer.

He goes on to point out that the automobile editor is, or should be, interested only in real news of the industry and that real news is not material that rightfully belongs in advertisements. He goes still further in showing that a great deal of the material that is sent to him as news is of such an extravagant character that no self-respecting advertising man would think of publishing it in paid space.

Unfortunately for the automotive industry as a whole a great deal of this puffery and flummery does get published. Fortunately, a a great deal of it doesn't get read, since the automobile prospect, saddened by experience, knows pretty well what to read and what not to read. The proud publicity man who shows his boss a sheet of figures which demonstrate that a particularly juicy bit of publicity has been published in a long list of newspapers makes a mistake if he thinks that the circulation of those newspapers represents anywhere near as true a gauge of the number of prospects who have read the publicity as it would represent the number who read a well-written advertisement placed in the same newspapers.

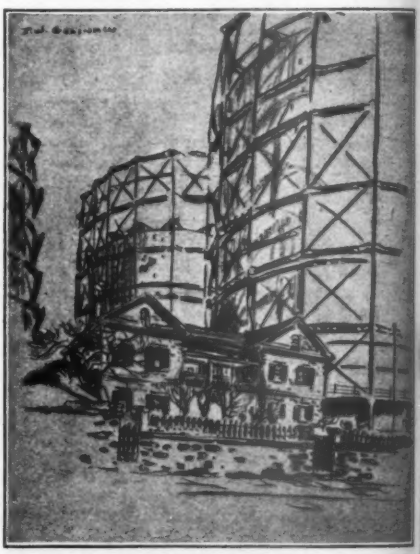
Automobile owners are learning more and more that they must depend upon automobile advertising for their real news of the industry. The fog of publicity that is thrown up not only does not back up the advertising, it also defeats the real purpose of the advertising by shaking the prospect's faith in the value of the statements made in the advertising.

That the blame is not entirely on the shoulders of the industry is pointed out by an editorial in the same issue of *Automotive Industries*. This describes the plan of an automobile manufacturer who, when he brought a new model, sent out not a word of publicity but asked the automobile editors to view the car and write their own stories. A majority of these editors refused to go to the trouble of writing these articles, asking the company to send in such stuff as it wanted printed.

Here is a situation that both the advertiser and the vendor of advertising space must face. Sooner or later they are going to realize the truly damaging effect of cheap publicity. The time to take corrective steps is today, before the consumer's faith has been so badly shattered that all the king's horses and all the king's men will be unequal to the necessary repair job for the advertiser.

From Printers' Ink

In the Shadow of the Gas House



Reproduced by Permission of the New York Times

One of the Last Vestiges of Old New York Still Flowers Among Twentieth Century Burden Bearers.

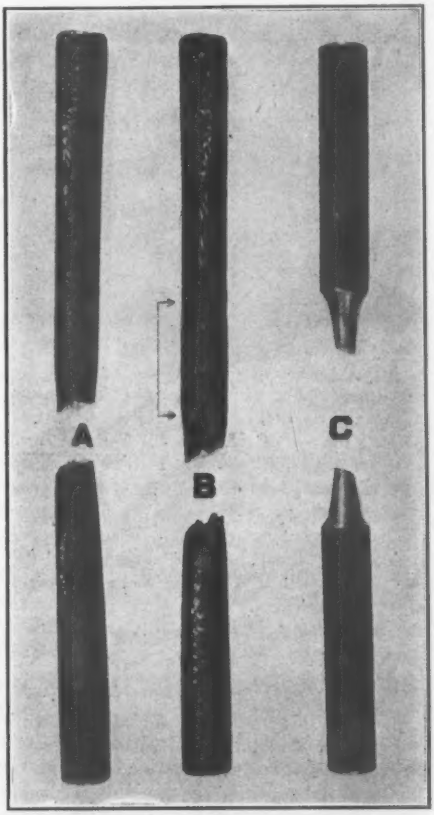
MANUFACTURERS SECTION
WATSON E. DERWENT, Chairman W. E. STEINWEDELL, Vice-Chairman
C. W. BERGHORN, Secretary

Strengthening Corroded Anchor Bolts

Acetylene Welding Solves a Problem in Holder Maintenance

By FRED G. THORN, Jr., United Gas Improvement Company

WHILE dismantling the guide frame of an old holder in Philadelphia, built 55 years ago, the anchor bolts above the masonry foundations were found to be greatly weakened through corrosion so that the effective area of the metal was reduced from 1½ inch to about 7/8 inch in diameter. The least expensive as to time and money for making the repairs appeared to be to clean off the corrosion thoroughly and rebuild the bar to the full diameter by the addition of welded Norway iron. The question that no one appeared to be able to answer was, what part of the original strength of the bar would be restored by such welded metal added to restore the full diameter of the bar. To determine this, the following experiment was made:



Bar "A": 1-inch round steel bar.
Bar "B": 1-inch round steel bar, a portion of which was turned down on lathe to ½ inch diameter to represent the loss of material by corrosion on our anchor bolts. The reduced area was afterwards refilled with metal welded in by acetylene torch.
Bar "C": 1-inch round steel bar turned to the same dimensions as bar "B", but not refilled.

Upon testing these three bars for tensile strength the following interesting points were developed in connection with acetylene welding: It was found that the building up with welded material not only brought this portion of the bar back to its original diameter but

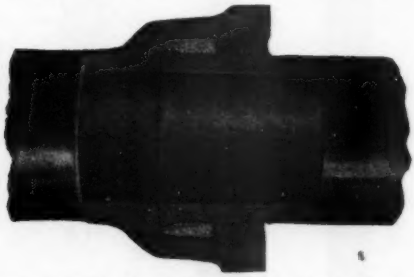
RESULTS OF TESTS TO DETERMINE STRENGTH OF WELDED ANCHOR BOLTS

Marked	Size	Area in Sq.in.	Yield Point in Lbs.	Yield Point per Sq.in. (in Lbs.)	Broke at (in Lbs.)	Breaking Strain per Sq.in. in Lbs.	Area of Red. Sec. in Sq.in.	Red. Per cent of Orig. Sec.
A	1.002	.788	28,400	36,000	41,400	52,500	.441	43
B	1.002	.788	28,400	35,500	41,800	53,000	.460	42
C	505	.200	8,500	42,500	11,200	56,000	.119	40.5

also restored the full strength of the original bar. This is shown in the report of the testing laboratory on bar "B." Note that bar "B" did not break, under pull, through the welded metal but just beyond the welded metal, and the strength developed was at least equal to that of the unwelded piece.

New Gas-tight Joint Seal for C. I. Bell and Spigot Pipe

THE Bigler ring for high pressure gas joints, which has just been put on the market, is an invention by F. R. Bigler, purchasing agent for the Kansas City Gas Co., Kansas City, Mo. The invention is an improvement in the packing for use between the spigot and the bell of a cast iron pipe line and permits the use of such pipe for high pressure gas transmission mains. Heretofore, cast iron pipe has not satisfactorily carried even low pressure gas.



The Bigler rubber ring is hollow and larger in diameter than the annular space in the stuffing box which is formed when the spigot of a pipe is entered into a bell. This places the rubber ring under initial pressure when it is calked into the joint. The seal is made by the rubber ring, the lead and jute merely serving to hold it in place.

The best practice is to fill a joint with juice to the extent that the rubber ring will rest about halfway past the lead groove. In this position one-half of the ring is under more compression than the other half which has expanded into the lead groove. Thus the ring can be placed under additional compression at any time by calking on the face of the joint. It is claimed that the field construction with the joint is both speedy and economical. Furthermore, cement may be used in place of lead to hold the ring in place. The lead may be either poured into the joint or used as cold lead strips; jute may be either dry or treated.

From the Engineering News-Record.

Model Gas Home Leaves for France

A MODEL American home of ten rooms and three baths, built and completely furnished in New York, will be shipped to France and set up in the Grand Palais, at Paris, as part of the American section of the International Exhibition of Household and Labor-saving Devices, October 22 to November 15.

The house is heated by an automatic gas-fired boiler, operated under thermostatic control, which has been contributed by the American Radiator Company; a 66-gal. automatic storage water heater, contributed by the Cleveland Heater Company, and two radiant fire heaters, one for the living room and another for the dining room, contributed by the General Gas Light Company. It is interesting to note that the radiation is of the Corto type, which was designed by a Frenchman.

The decision to send a model American home to France was made as a result of the report of Albert Broisat, General Commissioner of the National Office of Industrial Research and Inventions, that French women, having heard so much of the comforts of American homes, particularly in regard to heating, plumbing and kitchen equipment were beginning to demand the introduction of these labor-saving elements into the better class of French homes. The house will show the small American home at its best.

AMERICAN CAST IRON TO BUILD

THE AMERICAN CAST IRON PIPE COMPANY, Birmingham, Ala., will erect a new pipe shop at once, to be completed by Feb. 1, for the manufacture of sandspun centrifugal cast iron pipe, the new shop to have a capacity of 500 tons daily.

INDUSTRIAL GAS SECTION

FRANK F. CAULEY, Chairman CHARLES C. KRAUSSE, Vice-Chairman
C. W. BERGHORN, Secretary

Standing Guard Over Your Customers

If They Do Not Get the Best Use Out of Your Product, You Are in Danger of Losing Them

By LOGAN W. CARY, Oklahoma Gas & Electric Co.

EVERY industrial customer has to be sold. He must be made to see the advantage of gas over other fuels. The first step in selling is the survey of the fuel plant. We learn the condition of the plant and the methods of operation. It is very important to know the approximate efficiency at which the plant is operated. We must also know the previous fuel requirements of the plant.

Under the average operating conditions, in Oklahoma City, 5500 cu.ft. of gas, of 1,000 B.t.u. quality, is equal in heating value to a barrel of fuel oil. Eighteen thousand cubic feet of gas is likewise equal to a ton of coal, where the boiler is fired by hand. The oil is figured at 19,000 B.t.u. per pound, the coal at 11,000 B.t.u. per pound, and the gas at 1,000 B.t.u. per cu.ft. Our gas rate in Oklahoma City is 68 cents per thousand cubic feet for the first 100,000 feet, and 20 cents per thousand for all in excess of the first 100,000 on a monthly basis.

With the above data at hand, a detailed report is made to the prospective customer in which the amount and percentage of saving is shown. The proper recommendations for necessary repairs and equipment are also made. We act as consulting engineer for the customer in selling him and keeping him sold.

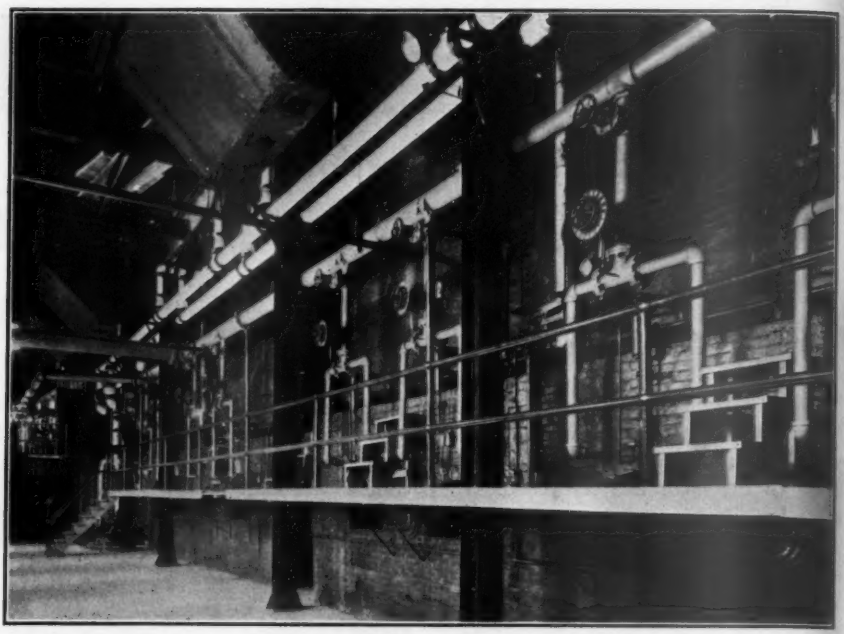
A survey of our connecting mains to the plant of the customer is made, and the proper size of the mains, regulators, and meters is calculated.

The prices of gas burners and the cost of their complete installation are obtained from the representative of the gas burner company and are included in our report to the customer. Closing a contract is a matter of salesmanship.

As soon as the contract is made, we install the necessary gas lines, meters and pressure regulators, we see that proper repairs are made on furnaces and boilers and that the gas burners are properly installed. After the customers start to burn gas, our combustion engineer visits the plant to check the efficiency. He is equipped with a hand orsat for analyzing the spent flue gases. A low resistance pyrometer is also used to check the temperature of the spent flue gases. Portable draft gauges are used to determine the draft in the furnaces and at the damper.

If for any reason the efficiency is lower than it should be, we work with the engineer and fireman until conditions are such that the proper efficiency is obtained. This often requires several days and a lot of study and instructions to operators. Cleanliness and order in the boiler room are encouraged. It makes working conditions better and makes for more efficiency in operation.

Our combustion engineer visits each plant at regular intervals and checks the efficiency. If it is found low, it is either



Natural Gas Installation of 3,000 H.P. in Use by Wilson and Company's Packing Plant. Free Engineering Service Is Given to This and Other Industrial Gas Customers.

due to carelessness, accidents, or both. The operating engineer will usually be glad to remedy the trouble. It is important to establish friendly co-operation with the combustion engineer and the operating engineer and firemen, and to be always willing to explain. The operators should be made to feel that, when combustion problems come up, they are free to call on the company for help and they will get it.

It is occasionally necessary for an evaporative test to be made to prove the efficiency. This is usually necessary when repairs or new equipment are required to bring the efficiency of the plant up to par. We find that the customer is willing to co-operate on these tests once he understands their value.

We have a gas man of long experience who makes the rounds of the industrial plants every week. He reads the meters, and thus keeps a constant check on the gas consumption at each plant. Variations in the consumption are noted and the reason learned. A contemplated change in fuel is usually learned of and reported. This man co-operates with the operating engineers and firemen to the mutual advantage of the customer and the gas company.

Every representative of the company who comes in contact with the customer should do his best in keeping the customer satisfied that gas is the superior fuel.

Since we are selling him the best fuel for his purpose, if he will install the proposed equipment and properly operate it, it is inevitable that he will remain a satisfied customer.

What a Sales Engineer Ought to Know

About Merchandising the Intangible

By H. DeWITT VALENTINE, The Peoples Gas Light & Coke Company, Chicago, Ill.

H. D. Valentine

WHAT do I believe to be one of our greatest needs in the merchandising field of the gas industry today? I'll tell you.

Day by day, as I have been able to increase the horizon of my activity in sales development work as connected with one of our larger metropolitan gas companies, I am more and more convinced that the highly educated sales engineer is, possibly, the most important integer of a gas company's sales organization.

"Lady, can I sell you some gas today?" Can you conceive of any such opening remark when merchandising our product? We are merchandising, as has been so aptly expressed, the "intangible." Gas cannot be seen or generally perceived, nor can it be practically weighed, measured or handled; it is truly intangible. It possesses utility just because we are able to make use of its certain very desirable properties, but in so doing the merchandising effort in every case must be placed almost entirely on an appliance, a machine, or a series of equipment to satisfactorily produce certain desired results. These are called "gas burning appliances."

It stands to reason that if the salesman is not thoroughly acquainted with the principles of combustion, not only of gas, but the competitive fuels, or if he is not conversant with at least the fundamentals concerning the utilization of electrical energy, or if he is not qualified to talk intelligently on the correlating factors which enter so closely into the sale of appliances, such as heating and ventilating, metallurgical and other industrial operations, as they are affected by fuel problems, refrigeration principles, the household activities as they fall within our sphere of control—then it appears to me that that salesman is not sufficiently equipped professionally to ward off competition, good, bad or indifferent, and he is not qualified to tell the whole and true story of the utilization of his product.

We are living in an age of invention. The markets are being flooded with appliances of all kinds, some of them very poorly made and manufactured for a highly competitive market where prices prohibit a guarantee of first class workmanship and design. The public, ever gullible on the price situation, are being constantly swindled in purchasing these inferior appliances and, consequently, as their pride will not allow them to blame themselves, the natural consequence is an undesirable critical attitude against gas itself.

We are dealing with a public which is becoming ever more highly educated and critical. It is an intelligent public, and appreciates intelligence when it is being interested in things that are new and useful. If we are to successfully combat the inroads of cheap merchandise for burning our product, we must have salesmen who are competent to judge what is and what is not inferior merchandise. That, to me,

is the all important service that the sales representative of any public utility can give to that company and to the public.

It seems to me that from a standpoint of development, the gas industry must avail itself of the services of high class technically trained men to teach this intelligent public the virtues of gas as a fuel in all heating operations.

My thought on this is not merely idle speculation, but is formed from observation on common practice of other big organizations, of which the electrical industry is a very good example. Many of the larger electrical manufacturing companies, as well as the electrical utilities, specify that the qualifications of their sales organization regarding technical training and experience be almost on a par with that in the research department.

Coupled with this technical foundation, the further requirements are naturally the correct use of the English language, and a personality which will inspire confidence. I believe thoroughly that the greater portion of the success of the electrical industries today, so far as merchandising organization is concerned, can be attributed to the selection and training of highly efficient sales engineers. It appears to me that at this time the gas industry must follow their example, and make their proposition interesting enough to the candidate of exceptional qualifications that he may cast his lot with the gas industry and help its future development.

Turkey Insurance
An Idea for November

SUPPOSE your consumers saw an advertisement with this heading in their local newspaper a week before Thanksgiving. They would read it—wouldn't they?

"Is Your Turkey Insured?"

They've probably heard of all kinds of insurance, but turkey insurance is just a bit novel. Yet, as the housewife continues reading she immediately appreciates how apt is the application. She knows from experience that roasting turkey to the desired perfection is an uncertain proposition. And Thanksgiving is the one day when she doesn't want to risk failure—for the whole day centers on the turkey!

Surely there could be no more effective way of calling the attention of your consumers to the value of oven heat control than by means of the idea expressed in an advertisement and window display reproducing this message.

Introducing the Demonstrator

PUBLIC SERVICE
Men and Women
The Demonstrator
Electric and gas devices of many kinds, all designed to lessen the burden of the housewife, are sold in PUBLIC SERVICE commercial salesrooms, and it is the duty of the Demonstrator to show you how, when and why they work.
From the gas range to the electric curling iron, each is designed to and does shorten, simplify and make easier some domestic process. Collectively they have introduced science into the household in a way that dignifies household toil and adds to household comforts.
In the home, before women's clubs and similar organizations, and in its own offices, the practical demonstration of the devices it sells is a part of the service that PUBLIC SERVICE gives.
To the woman, who is interested in her home and seeks improvement in household methods, the Demonstrator is a good friend.

One of a Series of Advertisements by the Public Service Electric and Gas Company of New Jersey Introducing Its Employes to the Public They Serve.

TECHNICAL SECTION
JOSEPH P. HAFTENKAMP, Chairman WALTER C. BECKJORD, Vice-Chairman
H. W. HARTMAN, Secretary

The Mechanism of Coal Carbonization

A Picture of a Chemical Process Graphically Described

By JEROME J. MORGAN, Department of Chemical Engineering, Columbia University

Jerome J. Morgan

THE author fully realizes that any attempt to explain such a complex and controversal mechanism as that of coal carbonization in simple definite statements rather than in vague generalities, and to describe the process in well known terms instead of by especially coined words and phrases, is likely to lead to criticism of the subject matter. He welcomes any such criticism that is constructive. He is here trying to make available a picture which has been invaluable to him in explaining the observed facts of coal carbonization and in tracing the origin of the compounds resulting from this process.

It is not expected that all of his readers will agree with him, but if he can set those who do not agree with him to thinking along this line, his object will have been accomplished. Possibly their thinking may lead to something that is really worth while.

In presenting this picture the author wishes to give credit to his former student, Dr. R. P. Soule, for the conception of the main outlines in the picture. They are based upon an exhaustive search and careful analysis of the literature, and are supported by Dr. Soule's thorough investigation of the composition of low temperature tar.*

In the picture given below the author has attempted to give the outlines in simpler language and to paint in some of the details which were omitted in the original.**

Whatever may be our conception of the chemical structure of coal, we cannot doubt that chemically coal is a very complex substance and that none of the products of carbonization exist as such in the coal. It will help us greatly in tracing the mechanism of carbonization if we are able to accept the picture of its structure as elaborated below.

It is well known in organic chemistry that carbon atoms have a way of linking up to one another. In doing this they form two general classes of compounds.

In fact organic chemistry is divided into two large divisions, depending upon whether the carbon atoms are linked together in open chains (aliphatic compounds) or in closed rings (aromatic compounds). In Figure 1 are given the structural formulas of several well known substances which show the chain structure of carbon compounds and illustrate how nitrogen, oxygen and sulphur may enter into these chains.

In Figure 2 we have the structural formulas of some typical ring compounds, all of which are present in high temperature coal tar.

Figure 3 illustrates, again by means of well known compounds, how the chains of Figure 1 may be used to link together the rings of Figure 2. In the case of the simplest compound given in Figure 3, di-phenyl-ethane, it is seen that the two end hydrogen atoms of the chain in ethane have been replaced by the two phenyl rings. Phenyl is simply benzene

*Above reference and Porter, "Coal Carbonization", page 325.
**Chemical and Metallurgical Engineering, Vol. 26, 923-8, 977-81 and 1025-30, 1922.

with one hydrogen replaced. To bring out the presence of the ring structures in the other complex compounds we have put rings around the carbon and hydrogen atoms which form these rings. It will be noted that in all cases where the full structure is given, the carbon atoms have four bonds by which to attach to other atoms. Also that in the compounds given the sulphur and oxygen atoms have two bonds each, and the nitrogen atoms three bonds. Hydrogen atoms, of course, always have only one bond each.

Now in our picture of the chemical structure of coal we will think of it as made up largely of nuclei of carbon and hydrogen atoms joined in ring structures such as given in Figure 2, but possibly containing different numbers of carbon atoms and different proportions of hydrogen. We will think also that some of these nuclei may contain nitrogen and sulphur. It is possible, but not essential, that other nuclei may contain oxygen. To separate these nuclei in space, but to bind them together as coal, we will imagine that there exists a great number of chains of atoms linking together the different nuclei. We have seen in Figure 1 some of the chain structures, and Figure 3 illustrated how they are used to join together the rings in some well known organic chemicals and dyestuffs. In the coal we will imagine that these chains may vary greatly in the number and in the kinds of atoms they contain.

If we take the above as our picture of the chemical structure of coal, it becomes fairly easy to trace the mechanism of carbonization. As the temperature rises, the heat causes the atoms to wiggle and wobble about with greater activity and at greater distances, the higher the temperature goes. Finally a temperature is reached, the initial decomposition point, when the atoms begin to break loose. When they do this it is natural to expect that the break will be at the weakest spot in the chain or ring; at the place where the grip of the atoms on each other is lightest. Now, as a rule, ring compounds are less easily decomposed than chain compounds, and in this respect rings that contain six carbon atoms are especially stable. Further, the force that holds carbon atoms together is often not so great as the force that holds them to the atoms of other elements. So the breaks come in the chains, and the carbon atoms take with them the hydrogen atoms to which they were attached.

If a single carbon atom breaks away with its two hydrogen atoms, it may pick up two more hydrogen atoms from ad-

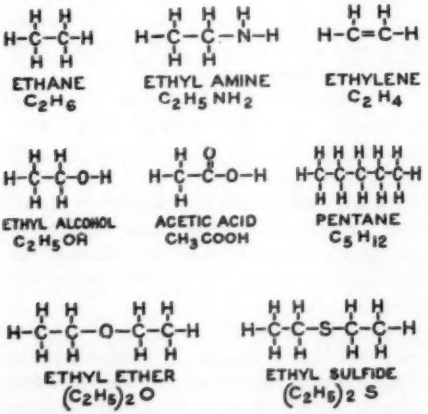


Fig. 1. Structural Formulas Showing Chain Structures of Carbon Compounds.

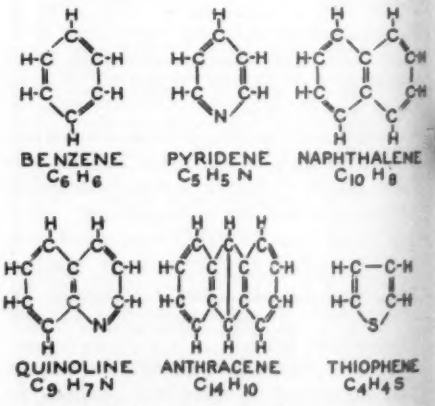


Fig. 2. Some Typical Ring Compounds Present in High Temperature Coal Tar.

jacent carbon atoms. The result is methane, CH_4, which is one of the components of the low temperature gas. If the carbon atoms happen to come out in pairs, each with two hydrogen atoms attached (—CH_2 — CH_2—) they may again pick up two hydrogen atoms. The result in this case is CH_3 — CH_3, ethane, another large component of the low temperature gas. Ethylene, CH_2 — CH_2, might be formed if a pair of carbon atoms, each with 2H attached, did not find the 2 extra H's to satisfy their free bonds, and had to content themselves by joining hands, so to speak, with each other. In similar ways, higher hydrocarbons of the gas as well as ammonia, NH_3; hydrogen sulphide, H_2S; water, H_2O; carbon monoxide, CO; and carbon dioxide, CO_2, might be formed, all or nearly all by the breaking of the chains.

But in the breaking of the chains which bind the nuclei in the mass, some of the nuclei themselves with remnants of chains still attached will be volatilized. These form the complex compounds of the low temperature tar. If they have oxygen and hydrogen (—OH) attached to the ring along with remnants of other chains, we have the origin of low temperature phenols. If only hydrogen and carbon are present in the nuclei and side chains, there results the hydrocarbons of the tar. In similar ways the origin of the nitrogen and sulphur compounds of the tar may be traced.

We have in this way accounted for the ammonia, hydrogen sulphide, water, gas and tar formed in low temperature carbonization. It is just as easy to imagine the origin of the semi-coke. All we have to do is to assume that in the case of a great proportion of the nuclei, when the linking chains were broken, the nuclei became attached to each other and remained behind as the solid residue.

We have thus a fairly good picture of the mechanism of low temperature carbonization. It is also one that is in fair accord with the observed facts.

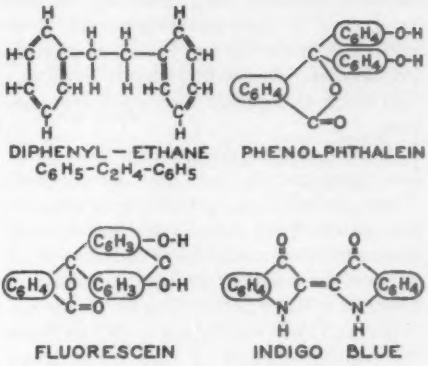


Fig. 3. Illustrating How Chains of Fig. 1 May Be Used to Link Together the Rings of Fig. 3.

If we can visualize this process of low temperature carbonization, the picture of high temperature carbonization will be simple. As the temperature rises the semi-coke loses hydrogen which was attached to the nuclei and also the remnants of the chains. These chains which remained after low temperature decomposition were short. Hence the gas now is mainly methane and hydrogen.

But the process of high temperature carbonization includes also the decomposition of part of the gases and vapors formed at lower temperatures. As the low temperature gases and vapors escape through the hot coke they are subject to decomposition by heat. Part of the ethane and ethylene of the gas is cracked to methane, hydrogen and carbon, thus:

$$C_2H_6 = CH_4 + C + H_2 \text{ and}$$
$$C_2H_4 = CH_4 + C$$

The carbon from these and similar reactions is deposited on the cell walls of the coke, increasing its density, and upon the walls of the retort, forming retort carbon.

At the same time the complex compounds of the low temperature tar vapors are cracked. The complex hydrocarbons lose part or all of their side chains and also may lose hydrogen from their nuclei. The side chains yield methane, ethane, ethylene and other hydrocarbons. The nuclei give the aromatic hydrocarbons.

benzene, toluene, naphthalene, anthracene, etc., of high temperature tar. Undoubtedly many of the nuclei themselves are decomposed yielding mainly hydrogen and methane together with much free carbon.

In like manner the complex phenols of low temperature tar are decomposed. These, in addition to yielding hydrocarbon gases, yield water from —OH side chains which are cracked off. If the —OH escapes the cracking process and remains attached to the ring after most of the hydrocarbon side chains are gone, we have the simpler phenols of high temperature tar. Phenol, C_6H_5OH, and the cresols, $C_6H_4CH_3OH$, are examples of these. In similar ways the sulphur and nitrogen compounds are decomposed. Many of these decompositions give free carbon which forms the lampblack, or carbon, of the tar as well as increases the density of the coke and deposits as retort carbon.

This completes our picture of coal carbonization. It may seem very complex, but it will become simpler as it is better understood, and it explains the facts very well. In it no mention has been made of acetylene or of the pyrosynthesis of benzene, naphthalene, anthracene, and higher multiple ring compounds from the simple hydrocarbon gases. It is the author's opinion that the presence of acetylene in coal carbonization has never been proven. In regard to pyro-synthesis, while it is possible to synthesize benzene, naphthalene, etc., there appears to be no good reason for believing that this synthesis plays anything but a minor part in coal carbonization.

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Statement of the Ownership, Management, Circulation, etc., Required by the Act of Congress of August 24, 1912

Of American Gas Association MONTHLY, published monthly at Brattleboro, Vermont, for October 1, 1925, State of New York, County of New York, ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Henry Obermeyer, who, having been duly sworn according to law, deposes and says that he is the Editor of the American Gas Association MONTHLY and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, American Gas Association, Inc., 342 Madison Avenue, New York City. Editor, Henry Obermeyer, 342 Madison Avenue, New York City. Managing Editor, None. Business Managers, None.

2. That the owner is: (If the publication is owned by an individual his name and address, or if owned by more than one individual the name and address of each, should be given below; if the publication is owned by a corporation the name of the corporation and the names and addresses of the stockholders owning or holding one per cent or more of the total amount of stock should be given.) American Gas Association, Inc., 342 Madison Avenue, New York City. President, H. C. Abell, 342 Madison Avenue New York City. Vice-President, A. B. Macbeth, 342 Madison Avenue, New York City. Treasurer, H. M. Brundage, 342 Madison Avenue, New York City. Secretary-Manager, Alexander Forward, 342 Madison Avenue, New York City.

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5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is not required. (This information is required from daily publications only.)

HENRY OBERMEYER

Sworn to and subscribed before me this 30th day of September, 1925.

FLORENCE ATEN IVES,
Notary Public, New York Co. 12
(My commission expires Mar. 30, 1926.)

Lead Filings and Zinc Dust as Pipe Jointing Materials*

By SAMUEL J. ROSENBURG,
Bureau of Standards, Washington, D. C.

ALTHOUGH the use of zinc dust or sherardized or zinc-plated pipe threads to prevent "galling" is practiced to a small extent by plumbers, the practice does not appear common. Dipping the threads in a solder pot so as to catch a little solder in the threads before making the joint is also, but rarely, practiced. The use of the white lead or red lead joint paste is well-nigh universal.

Joints made with paste must be allowed to set for a considerable period before they attain their maximum tightness. A means of producing a joint which will be tight at once by the use of material readily available to any plumber should be worth while.

As described in the American Gas Association MONTHLY for May, 1925, the Bureau of Standards was recently informed by A. H. Deike, a heating contractor of Takoma Park, Md., that he had found it possible to make satisfactory pipe joints by the use of lead filings.

The lead filings, obtained by flattening an ordinary lead pipe and rasping with a coarse rasp, are laid in the female thread and scattered over the male thread as the joint is screwed up. The usual white or red lead joint paste may be used, or may be omitted and oil used to hold the filings in place. The oil used as a lubricant in cutting the threads is usually sufficient to hold the filings.

It was claimed that this method gave a tighter joint than is obtained with ordinary joint paste, and that it always remains easy to unscrew, while a paste joint that has set for a long time may be very difficult to unscrew.

In the practice of Mr. Deike and of others to whom he has suggested the method, this shop kink has been useful, and he suggested that if the Bureau cared to test the method and found it useful, he would be glad to have the information passed on to any whom it might interest.

The method suggested was new to the Bureau, but seemed promising, since a lead gasket within a joint should make a tight joint, and the filings should be forced into the practical equivalent of a gasket as the joint is screwed up.

From the results of the tests, the following conclusions may be drawn:

1. For freshly made joints, those made with lead filings or zinc dust are more watertight than those made with white lead joint paste.
2. For joints which have been allowed to set for some time the different types of joints are about equally watertight, at least up to 8500 lbs. sq.in. pressure.
3. Although the best results show that the joints made with white lead joint paste are easier to unscrew, they also show that the turning moments required increase with time so that it is probable that very old joints will require a much greater force to open them than relatively new joints. On the other hand, joints made with lead filings or zinc dust cannot harden with age, so it is possible that after a period of time a greater turning moment will be necessary to open a joint made of white lead joint paste than one made of lead filings or zinc dust.

It is probable that fine particles of any soft metal will serve as the lead filings and zinc dust were found to serve.

*Abstract published by permission of the Director of the Bureau of Standards.

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Canadian Gas Association
Date of Affiliation—Mar. 25, 1919.
Pres.—J. J. Humphreys, Montreal Light, Heat & Power Co., Montreal, Que.
Sec.-Tr.—G. W. Allen, 7 Astley Avenue, Toronto.
Conv., 1926.

Empire State Gas and Electric Association
Date of Affiliation—Nov. 21. 1919.
Pres.—E. C. Scobell, Rochester Gas & Electric Corp., Rochester, N. Y.
Chairman Gas Section—C. C. Atwood, The Brooklyn Union Gas Co., Brooklyn, N. Y.
Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.
Annual Meeting, 1926.

Illinois Gas Association
Date of Affiliation—Mar. 19, 1919.
Pres.—R. E. Chew, Union Gas & Electric Co., Bloomington, Ill.
Sec.-Tr.—R. V. Prather, 305 Illinois Mine Workers Bldg., Springfield, Ill.
Conv., Chicago, Ill., 1926.

Indiana Gas Association
Date of Affiliation—April 24, 1919.
Pres.—H. J. Roach, Northern Indiana Gas and Electric Co., Crawfordsville, Ind.
Sec.-Tr.—E. J. Burke, Room 1314, Peoples Gas Bldg., Chicago, Ill.
Conv., 1926.

Iowa District Gas Association
Date of Affiliation—May 21, 1919.
Pres.—C. M. Benedict, Des Moines Gas Co., Des Moines, Iowa.
Sec.-Tr.—H. R. Sterrett, 551 Seventh St., Des Moines, Ia.
Conv., 1926.

Michigan Gas Association
Date of Affiliation—Sept. 18, 1919.
Pres.—B. G. Campbell, Consumers Power Co., Pontiac, Mich.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.
Conv., Mackinac Island, Mich., 1926.

Missouri Association of Public Utilities
Pres.—Wiley F. Corl, Community Power & Light Co., St. Louis, Mo.
Sec.-Tr.—F. D. Beardslee, 315 N. 12th St., St. Louis, Mo.
Conv., 1926.

New England Association of Gas Engineers
Date of Affiliation—Feb. 19, 1919.
Pres.—H. N. Cheney, Boston Consolidated Gas Co., Boston, Mass.
Sec.-Tr.—J. L. Tudbury, 247 Essex St., Salem, Mass.
Conv., Boston, Mass., Feb. 24 and 25, 1926.

Gas Sales Association of New England
Date of Affiliation—Oct. 1, 1919.
Gov.—J. J. Quinn, Citizens Gas Light Co., Quincy, Mass.
Sec.—J. H. Sumner, 719 Massachusetts Ave., Cambridge, Mass.
Annual Meeting, 1926.

New Jersey Gas Association
Date of Affiliation—April 25, 1919.
Pres.—H. D. Whitcomb, Public Service Electric & Gas Co., Newark, N. J.
Sec.-Tr.—R. A. Koehler, Public Service Electric & Gas Co., Newark, N. J.
Conv., 1926.

Oklahoma Utilities Association
Date of Affiliation—June 16, 1926.
Pres.—R. C. Sharp, Oklahoma Natural Gas Co., Tulsa, Okla.
Mgr.—E. F. McKay, Oklahoma City, Okla.
Conv.

Pacific Coast Gas Association
Date of Affiliation—Sept. 18, 1919.
Pres.—F. J. Schafer, Southern California Gas Co., Los Angeles, Calif.
Exec. Sec.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.
Conv., Los Angeles, Calif., 1926.

Pennsylvania Gas Association
Date of Affiliation—April 10, 1919.
Pres.—Wallace G. Murfit, Bucks County Public Service Co., Newtown, Pa.
Sec.-Tr.—Geo. L. Cullen, Harrisburg Gas Co., Harrisburg, Pa.
Mid-Year Meeting, Scranton, Pa., Dec. 7, 1925.

Southern Gas Association
Date of Affiliation—May 20, 1919.
Pres.—S. E. Linton, Nashville Gas & Heating Co., Nashville, Tenn.
Sec.-Tr.—J. P. Connolly, 141 Meeting St., Charleston, S. C.
Conv., New Orleans, La., March 15, 16, 17, 1926.

Southwestern Public Service Association
Date of Affiliation—September 26, 1923.
Pres.—W. E. Wood, Houston Electric Co., Houston, Texas.
Chairman Gas Section—P. E. Nicholls, Galveston Gas Co., Galveston, Texas.
Sec.—E. N. Willis, 403 Slaughter Bldg., Dallas, Texas.
Conv., 1926.

Wisconsin Utilities Association
Date of Affiliation—March 25, 1919.
Pres.—G. H. Wilmarth, Northern States Power Co., Eau Claire, Wis.
Chairman Gas Section—S. B. Sherman, Wisconsin Gas & Electric Co., Racine, Wis.
Exec.-Sec.—J. N. Cadby, 445 Washington Bldg., Madison, Wis.
Conv., 1926.

Geographic Divisions

Eastern States Gas Conference
Date of Formation—April 11, 1923.
Pres.—W. Griffin Gribbel, John J. Griffin & Co., Philadelphia, Pa.
Sec.-Tr.—R. A. Koehler, Public Service Electric & Gas Co., Newark, N. J.
Conv., 1926

Employment Bureau

SERVICES REQUIRED

GAS COMPANY operating in the Metropolitan District, New York, offers a permanent position to a thoroughly qualified Street Main Foreman. Address giving experience, salary expected and when services are available. Answers will be considered confidential if desired. Address A.G.A.
Key No. 058.

DESIGNER—Well known manufacturer of high grade gas burning appliances has a position open for a competent man for experimental work and design of gas stoves, radiant heaters, tank water heaters, etc. Must be a practical man experienced with gases of various kinds and qualities. State fully your training, experience and salary expected. Address A. G. A.
Key No. 062.

HOME SERVICE—A large operating company in the East, which is increasing the Home Service Departments of its gas and electric companies, desires to secure the services of several young ladies who have had the following Home Service experience in the public utility business: Gas and electric cooking, minor maintenance of gas and electric appliances and public relations work. The positions in question will require some traveling and offer a wonderful opportunity for advancement. State age, experience and salary desired in first letter. Address A. G. A.
Key No. 067.

WANTED—A large Eastern Company, operating a number of gas and electric properties, desires to employ a young man or young lady to assist in the General Office of the New Business Department. One who has had sales, newspaper, advertising and public relations experience in the public utility business, as well as knowing how to compile and maintain all records and data pertaining to the Department. Good salary and wonderful opportunity for advancement in a progressive organization. State age, salary expected and past experience. Address A. G. A.
Key No. 068.

ENGINEER—A large Eastern engineering and contracting organization, specializing in public utility work, desires the services of an energetic engineer of good personality with technical education and experience in construction operation and design of coal and water gas plants, to handle engineering and preparation of plans and specifications for new gas works and works improvements, also to handle such questions with customers on contracts entered into. Address A. G. A.
Key No. 069.

OPENING for Gas Works Chemist with large company in Southern California. Must be experienced, well qualified technical man. Some oil experience desirable. Address A. G. A.
Key No. 070.

SERVICES OFFERED

INDUSTRIAL ENGINEER available on short notice. Nine years' experience in industrial and commercial department supervision. Record and references will be furnished. Address A. G. A.
Key No. 192.

WANTED: Position by a Gas Engineer with twenty-three years' experience in all branches of the gas business and who has had experience in plant efficiencies and gas distribution problems. His connection with a strong operating company would make him a valuable man for a holding or a large operating company owing to his ability to reduce manufacturing and distribution costs. Would prefer position in the East. Address A. G. A.
Key No. 193.

PUBLIC UTILITY EXECUTIVE, with broad experience in engineering, management and finance desires position. Offers character, integrity and ability with service. Address A. G. A.
Key No. 196.

WANTED—Position as Manager or Engineer for a gas or gas and electric property by practical Gas Engineer thoroughly conversant with management problems, rates, industrial business development, design, construction and operation of coal and water gas plants, high and low pressure transmission and distribution. Considerable experience with electric power plants and natural gas properties. Technical education and twenty-two years' experience, fourteen years of which have been in gas and public utility work. Address A. G. A.
Key No. 197.

OPERATING ENGINEER desires communication with a utility property requiring the services of an operating engineer. Property either electric or gas or combined preferably in a medium size city with 25,000 customers or upward. Location preferably north central State or Canada. Position general superintendent or manager. Have had twenty-one years active contact with operating problems of diversified nature in electric, gas, water and telephone utility service as cadet engineer, superintendent of distribution, chief engineer, general superintendent and manager. Am at present employed. Address A. G. A.
Key No. 198.

WANTED: Position as manager or superintendent of a coal, water or combination gas plant, by a technical man, thirty-five years of age, with thirteen years' all around gas experience. Services available upon reasonable notice to present employer. Address A. G. A.
Key No. 199.

POSITION—Sales Manager of new business on Domestic, Hotel and Industrial appliances, desires similar position with promising future. Fourteen years' experience from shop through all commercial departments of one of the largest Utility Companies on the East. Thirty-six years old. Single. Services available in two weeks. Address A. G. A.
Key No. 201.

TECHNICAL MAN—(34) desires position as manager or superintendent of gas plant in city of 20,000 to 50,000 population; have had twelve years' experience in gas business of which last six have been as manager of gas properties; experience as superintendent of high and low pressure distribution; business and technical education; married; available immediately; references from present and former employers; prefer South. Address A. G. A.
Key No. 202.

POSITION WANTED—High grade specialty salesman, specializing in sales of gas-fired boilers and automatic water heaters for past 15 years, will be open for sales position with manufacturer or gas company October 1, 1925; thoroughly conversant with all phases of water heating and house heating; best of references from past and present employers together with details of ability will be submitted; road experience, no objection to travel. Address A. G. A.
Key No. 203.

WANTED—Position as manager of relatively small gas company or as engineer of larger property. Coal or water gas. Young, technically trained engineer (chemical and mechanical) with 10 years' unusually broad experience in all phases of industry, including manufacture, commercial and industrial, wishes to locate with property in need of man who can show the kind of results that mean increased net earnings. Address A. G. A.
Key No. 204.

WANTED—Am open for position as appliance salesman with appliance manufacturer, experience covers over fifteen years in the sale of gas ranges, automatic water heater and heating appliances, or as manager of appliance sales department with a gas operating company, experience includes executive and technical training. Married. A1 references. Address A. G. A.
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A COLLEGE GRADUATE, twenty-six years old, unmarried, three years' experience in operating plant with maximum daily send-out of 2600 M; fifteen months in charge of smaller plant and distribution, would like position with advancement. Address A. G. A.
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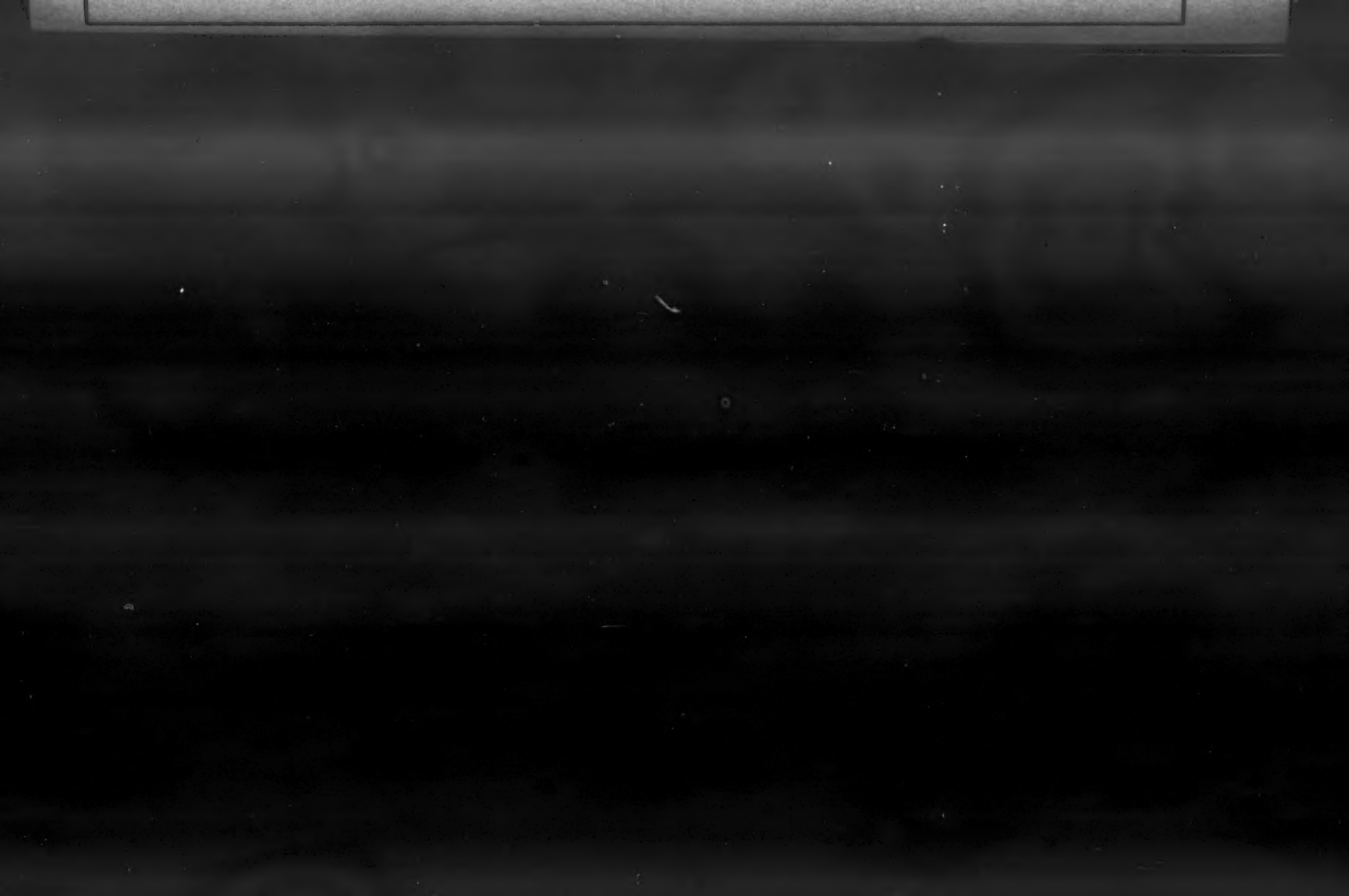

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COMMERCIAL—Chairman	R. J. CANNIFF	Poughkeepsie, N. Y.
Vice-Chairman	J. J. BURNS	St. Louis, Mo.
Secretary	R. L. BURDICK	Ass'n Headqtrs.
INDUSTRIAL GAS—Chairman	F. F. CAULEY	Chicago, Ill.
Vice-Chairman	C. C. KRAUSSE	Baltimore, Md.
Secretary	C. W. BERGHORN	Ass'n Headqtrs.
MANUFACTURERS—Chairman	W. E. DERWENT	Rockford, Ill.
Vice-Chairman	W. E. STEINWEDELL	Cleveland, Ohio
Secretary	C. W. BERGHORN	Ass'n Headqtrs.
TECHNICAL—Chairman	J. P. HAFTENKAMP	Rochester, N. Y.
Vice-Chairman	W. C. BECKJORD	New York, N. Y.
Secretary	H. W. HARTMAN	Ass'n Headqtrs.

SECRETARY-MANAGER	ALEXANDER FORWARD	Ass'n Headqtrs.
ASS'T SECRETARY-MANAGER	H. W. HARTMAN	Ass'n Headqtrs.